INDIA RUBBER WORLD

Edited by HENRY C. PEARSON—Offices, No. 35 West 21st Street, NEW YORK.

Vol. XXXVII. No. 2. NOVEMBER 1, 1907. 35 CENTS. $3.00 Per Year. $3.50 Abroad.

INDIA RUBBER WORLD

CAOUTCHOUC GUTTA-PERCHA

Published on the 1st of each Month by
THE INDIA RUBBER PUBLISHING CO.,
No. 35 WEST 21st STREET, NEW YORK.
CABLE ADDRESS: IRWORLD, NEW YORK.

HENRY C. PEARSON, EDITOR. HAWTHORNE HILL, ASSOCIATE.

Vol. 37. NOVEMBER 1, 1907. No. 2.

SUBSCRIPTIONS: $3.00 per year, $1.75 for six months, postpaid, for the United States and dependencies and Mexico. To the Dominion of Canada and all other countries, $3.50 (or equivalent funds) per year, postpaid.

ADVERTISING: Rates will be made known on application.

REMITTANCES: Should always be made by bank draft, Postoffice or Express money orders on New York, payable to THE INDIA RUBBER PUBLISHING COMPANY. Remittances for foreign subscriptions should be sent by International Postal order, payable as above.

DISCONTINUANCES: Yearly orders for subscriptions and advertising are regarded as permanent, and after the first twelve months they will be discontinued only at the request of the subscriber or advertiser. Bills are rendered promptly at the beginning of each period, and thereby our patrons have due notice of continuance.

Entered at New York postoffice as mail matter of the second class.

STANDARDIZATION OF TIRES.

NOWADAYS, when a great "department store" undertakes to supply practically every want of the buying public, the full page advertisements of these establishments are among the most interesting features of the newspapers, such is the variety of the wares described day after day, and the skill employed in wording the announcements. Not the least notable feature of such advertisements is that they are honest, so that they become an important record of development of current taste and manners. All of which has been suggested to the writer of these lines by glancing at random over one of these advertisements, in which the word 'tires" happens to appear prominently.

In the case in point the merchant announces "We handle only first quality tires, including such standard grades as"—and then follows a list in which appear impartially the names of certain American and European makes that would be acknowledged in any automobiling club in Christendom to be "good tires." No "freaks" in this list, no cheap goods, no unknown brands. Our object in referring to this particular advertisement—after stating that it is in no sense exceptional in New York store announcements—is to note that it indicates the standardization of the automobile tire. As everybody knows, the leading tire patents in America are expiring, as they have expired already in Britain, while France never granted any patents covering some important types of tires. What concerns "the man in the street" is whether a certain tire is a good one, and not who made it. The fact that it is offered by a reputable house is his principal guarantee as to quality, though if he has a preference for a particular brand of note, the up-to-date department store will supply it.

Whoever buys a pair of shoes to-day depends upon his own judgment as to the quality, or upon the reputation of the house from which he buys, far more than upon the maker's brand. Shoes are shoes, and one shoe as good as another—that is, in a reputable shop. The same thing is becoming true of the automobile tire, and because the leading makers of the tires have been honest in their work; each has attempted to do his best work, and each has succeeded equally well with his competitors, so that even the novice may feel that he will not go far wrong if he goes to a well established dealer to buy tires, though it be to a department store. But as we have said, if he wants a particular English or German or American or French tire, the store in question will sell it to him, as announced in the same advertisement with automobiles complete or baby rattles or luncheon baskets or grand pianos or lead pencils.

The tire makers have done marvelously well on the whole, and the best evidence is that their products no longer require a maker's guarantee to sell them.

OVERPRODUCTION OF RUBBER.

A QUESTION which is much discussed among rubber planters in British Asia, and even more among the thousands of British investors in plantation companies, is whether there is danger of overproduction. This is a very practical question, and deserving of all the attention that it has received, because the world is not yet rich enough to spend millions of money in promoting any enterprise without assurances that it will not be thrown away.

There may be some encouragement in the fact that history has recorded so few examples of "overproduction." Every grower of wheat or cotton or cucumbers, for example, may not always find a profitable or even a ready sale for his crops, but it can hardly be said that, on the whole, overproduction of any of these commodities has ever occurred. It is true that when the cultivation of quinine bark was once begun, so many persons engaged in it on a large scale that the rate of profit declined to an extent that caused some of the planters to retire from the field. Yet probably more quinine is produced now than any time in the past, and it is reasonable to suppose that it pays the producers, or they would stop gathering the stuff. Similarly, it was a common thing a few years ago, in the United States, to hear that cotton was no longer a paying crop, but the production has increased steadily in amount, and in years of largest production prices have ranged higher than in former times, and the cotton planters are becoming a wealthy class.

It may be said, by the way, that quinine is hardly a necessity in the sense that cotton and rubber are, because substitutes for it can be more readily named. In any event no one is apt to use quinine who can avoid it, whereas millions of people are anxious to acquire or use more cotton and rubber than they can now obtain, or pay for. This fact alone should be a sufficient guarantee to the doubtful that overproduction of rubber is not likely to occur. And so long as rubber—or any other commodity—is a real necessity of life, it is going to pay somebody to produce it.

Still, it may be argued that it must be possible to plant too much rubber, and that it is only wise to stop planting this side the danger line. To this it may be answered that, while surprising yields have been gained on some plantations, and while the same trees seem to yield more and more rubber every year, the number of cultivated trees now yielding is insignificant compared with the actual consumption of rubber. There are, it is true, some millions of younger trees, planted some years later than the trees now producing rubber, so that they will not be tappable for some time to come, when without doubt the total demand for rubber will have been greatly increased, while the native supplies will have been lessened. Any trees which may be planted herafter will be still longer in coming to maturity, so that overproduction at least does not seem to us imminent.

A point of more immediate interest is that the intending investor in existing plantations should convince himself (1) that the trees he is asked to pay for can be accounted for and (2) that he does not pay too much for them.

THE COTTON SITUATION.

THERE has been at no other time, perhaps, such a widespread interest in the cotton situation, from so many viewpoints, as at present. The attempt to extend cotton growing to new localities is more general than ever before, and is being conducted more extensively, on more practical lines, and with greater promises of success. While there is nothing in prospect to suggest the loss of American supremacy in cotton production, enough has happened to point out to American growers the wisdom of becoming prepared for competition in some important respects.

The activity in extending cotton areas has been prompted by the higher price level for cotton which has prevailed for several years and still shows no tendency to decline. Manufacturers are clamoring for lower priced fiber, and the prices available encourage the investment of capital in new planting enterprises, while the more intelligent colonial administrations of modern times are anxious to develop cotton growing as a feature of the development of the regions under their control. Ultimately some of these undertakings are bound to prove profitable, especially as the situation on the whole is one to develop more economical methods of production than have been practised in the southern United States in the absence of competition abroad.

At this moment the growers in these States are busy forming organizations for mutual benefit, but their chief motive appears to be the forcing of consumers to pay more for cotton. No one can complain of the growers for seeking the highest possible prices for their produce. But in the end prices are regulated by the general law of supply and demand, which prevents an artificial level from being long maintained. But now that the importance of concerted action is becoming recognized by the cotton growers, they may ultimately conclude to use the power of organization to so improve their methods that their labor will produce relatively larger returns than now, even at a lower price per pound of cotton.

To hold cotton out of the market, as is now attempted, will only stimulate production elsewhere, and hasten an era of lower prices for cotton generally. The international cotton conferences which have been held lately are likely to be of general benefit in bringing about the discussion of other features of the cotton situation than the sole matter of prices, with the result that the grower may get more money per unit of labor employed, and at the same time give the consumer more cotton for each dollar expended, regardless of where the cotton is grown.

WHY NOT A SPECIAL PATENT COURT?

THE keynote of a report made to the American Bar Association recently by a committee of its members was thus stated: "A United States patent ought to have the same legal force and meaning everywhere within its borders. But it has not at the present time." It happens that throughout the United States there are judges having primary jurisdiction, in the federal judiciary system, before whom may be brought actions at law relating to alleged infringement of patents. Decisions by these judges may be appealed from to district appellate courts, of which there are several, while the court of last resort—which may be reached only after a case has been carried through the two grades here noted—is the United States supreme court.

It has happened that the same patent has been held valid in some of these courts of "first instance" and invalid in others, a court of this rank not being influenced even by the decision of an appellate court in another district, and as a patent case cannot as a rule reach the supreme court without several years' delay, it will be seen that not a little confusion may exist as to the validity—and the commercial value—of any patent which may have been infringed. It is true, we believe, that a single decision, in one of the smaller jurisdictions, usually suffices to determine the validity of a patent, but this is not always the case.

The recommendation of the Bar Association's committee is in favor of one United States court of patent

appeals, to which cases might be carried at once from any court of first instance, thus shortening the procedure for arriving at a definite pronouncement in any particular action. This suggestion, all the details of which have not been set down here, appears to us to have merit, and we doubt not that it will be heard from further.

At the same time a further suggestion might well have a hearing. It is for the creation of a board of experts in connection with patent cases. It is our impression that in France such a board exists, which is called upon to take cognizance of all cases of patent litigation before a final decision is reached, whereas in the Bar Association committee's recommendation it is provided that the patent court of appeals shall be organized from the judges for the time being sitting in the United States circuit courts.

There comes to mind the pertinent suggestion in an English contemporary, that whereas even an eminent barrister may decline a retainer in a patent infringement case, on the ground that he is not familiar with patent law, he would not decline to render a decision in the same case should he chance to be elevated to the bench before the case was finally disposed of. It has occurred to ourselves—and without any reflection upon our very learned judges—that the outcome of a patent suit is about as uncertain as the result of a horse race, and it appears only reasonable that a court of experts should be able to render more satisfactory opinions in the class of cases under consideration than often result from the haphazard judicial system now in vogue in most countries.

RUBBER WILL BE FAR FROM THE LEAST important and interesting feature of the many automobile shows, the season for which is just beginning. By the way, the question might be asked why, when the streets are constantly crowded with automobiles, people still go to exhibition halls to see them. At least one advantage of the "show" is that the cars there are not likely to run over people.

ITALY'S GREAT RUBBER FACTORY, described on another page, not only supplies a large home demand for goods, but devotes an important share of its capacity to export trade. This is true of not a few other rubber factories in Europe, so great is the consumption of rubber goods in countries which as yet have no factories in this branch. While American exports of rubber goods continue to increase, it can hardly be said that this country has its share of outside trade, besides which the imports of such goods also continues to increase.

IT MUST BE ADMITTED THAT RUBBER CULTURE has passed the experimental stage when one studies the results attained by Mr. Rutherford, of London, of whom a sketch appears on another page, and considers that, while he has accomplished more than some of his plantation neighbors, the difference is a matter of quantity only and not of quality.

THE ROYAL AUTOMOBILE CLUB of England, in carrying out such a comprehensive series of trials of commercial motor cars as that which ended during the month, has placed a proper estimate upon this class of vehicles. Such cars are becoming a real necessity in modern life as compared with pleasure vehicles of any type, and while the R. A. C. trials involved no study of tire conditions, we take it that those rubber manufacturers are wisest who give the most serious attention to planning the best possible tires for commercial vehicles.

AND STILL THE LAYING OF OCEAN CABLES goes on—two new ones to connect New York with countries to the southward within the past few weeks. While both were financed by American capitalists, it does not seem that any American manufacturer was able to profit in any way from these enterprises.

THE RETURN OF THE BICYCLE to some degree of popularity serves to emphasize the truism that whenever rubber has been put to any practical use, that use of it never ceases. It did seem for awhile as if the bicycle tire formed an exception to the rule.

HIGH ESTIMATE OF PATENT VALUES.

THE annual report (1907) of the board of directors to the shareholders of the Westinghouse Electric and Manufacturing Co., signed by George Westinghouse, president, contains the following paragraphs in relation to the patents owned by the company or in which they are interested:

"Your company is the possessor of a large number of patents and of licenses under a still greater number by virtue of an agreement with the General Electric Co., made March 31, 1896. It may be said that these patents and licenses are the very foundation of the business of both companies. Their cost cannot be computed, because in addition to the large sums paid in cash, the development of the apparatus and systems covered by them have involved manufacturing, engineering, and legal expenses which have been constantly charged to current operations.

"The active patents of the two companies to-day, by purchase and as the result of development in their factories, greatly exceed the number covered by the patent agreement of 1896, and their value is even greater in proportion because of the enormous increase of the business protected.

"Almost every detail of the entire product of both companies is dependent upon the use of some one or more of the many thousand patents jointly owned, the right use of which should be worth an average of at least 10 per cent. on the value of the apparatus manufactured and sold under their protection. If this right of use be computed at only 3 per cent., a figure neither company could afford to accept from other manufacturers, the aggregate annual work of these patents would be $3,000,000 on the present output of the two companies, which, if capitalized on a 10 per cent. basis would make a gross value of $30,000,000 for all of the patents of both companies.

"The large sums expended in the acquirements of patents, in their upkeep, and in the development of apparatus covered by new patents, coupled with the fact that the value of the new patents constantly being acquired exceeds the value of those expiring, constitutes the equivalent of an important annual depreciation."

NOT ADMITTED AS SCRAP.

AN importation of old telegraph cable at New York was claimed to be free of duty as old copper fit only for manufacturing, or as junk. The samples and evidence showed that the cables had been imported in lengths of more than 2,000 feet and consisted of about 12 small copper wires grouped around one large copper wire, and all covered with an insulating material somewhat like gutta-percha. They were said to be the condemned parts of a submarine cable and meant to be cut up, the covering of the wire to be sold as scrap gutta-percha and the wire as scrap copper. The United States general appraisers held that, whatever the purpose of the importer, the merchantable character of the article was clearly shown by the evidence, and its classification by the collector of the port as a manufacture of copper wire was affirmed.

Standardization of Electric Lighting Materials.

AT the seventh annual convention of the National Electrical Contractors' Association of the United States one of the principal addresses was by Mr. C. M. Goddard, representing the Underwriters' National Electrical Association, who dwelt at length upon the "Factory Inspection Service" which for two years past has been maintained successfully. Mr. Goddard was identified closely with the formation of the Underwriters' national association and of the national electrical code. Referring to the development of the code as it now exists, the speaker quoted from the first printed rules regarding insulation issued in this country (in 1881), two of which were:

"Wires to be thoroughly insulated and doubly coated with some approved material.

"All wires to be securely fastened by some approved nonconducting fastening."

There has not always been uniformity of interpretation or application of the rules, either when in the earlier and briefer forms, or now when the national electrical code fills a book of 150 pages, but progress is being made all the time in the direction of uniformity. But there was a matter apart from the letter of the code which the speaker defined clearly when he said: "I believe it is fully as necessary that you contractors make it your business to always use fittings and materials which have been carefully examined and found to meet all requirements as it is to follow the code in your work of installing such devices and materials." Following are other extracts from Mr. Goddard's address:

WORK OF STANDARDIZATION.

"Our laboratories have lately made a very decided step in advance along this line of approved devices, which as it is further developed will, I think, be recognized as of great advantage to all users of electrical apparatus. It is known as 'Factory Inspection Service,' and has, I am glad to say, apparently met with cordial approval and coöperation from the great majority of the reputable manufacturers.

"It was started in connection with the manufacture of rubber covered wire as the 'Wire Inspection Bureau' [See THE INDIA RUBBER WORLD, September 1, 1905—page 398.] and has since been extended by the laboratories to other electrical products, such as conduit, etc., as well as to fire protection devices, such as chemical extinguishers, watch clocks and the like; it will in the near future be further extended and it is expected that eventually it will include the whole list of approved devices.

"Arrangements are made with as many of the manufacturers, say of approved rubber covered wire, as desire to be included, by which it is first ascertained that they have the proper factory facilities for the manufacture and testing of rubber covered wire and that their 'shop practice' is generally good—in other words, that they can produce a standard article.

"Then, in order to assure ourselves that they will produce a standard article, we employ a corps of inspectors whose duty is to periodically visit all of these factories as often as circumstances demand, say once or if necessary twice a week, for the purpose of looking over the factory and its product, making tests of coils selected at random, checking up the tests made in the factory and satisfying themselves that the entire output is being kept up to standard.

STAMPED GOODS.

"To such manufacturers as show good results, stamps are sold at so much per 500 feet of wire, and you are undoubtedly all familiar with the 'Wire Inspection Bureau' stamps that have been for some time attached to the tags on approved rubber covered wire, although you may not have known just what they meant.

"If an inspector finds that the product of any factory is frequently below standard, then the stock of stamps on hand, if any, is taken up and that factory can purchase no more stamps until the trouble is remedied and the product again brought up and kept up to standard.

"The cost of this service is covered by the sale of stamps, each manufacturer thereby contributing in proportion to his output, and it is gratifying to be able to say that the price of stamps has been twice almost cut in two since the service was started, so that to-day it cuts no figure at all in the selling price of the wire.

"This service you will readily see partakes very largely of the nature of the engineer who supervises the manufacture of all commodities under large government contracts, and gives you, as users of such goods, the benefit of knowing that you are getting what you are paying for, and this without any added expense.

"As this service is extended you will be able, by insisting on 'stamped' goods, to be sure that whatever you buy is what it is represented to be."

FACTORY INSPECTION SERVICE.

Another address of importance was that of Mr. Hugh T. Wreaks, secretary of the Wire Inspection Bureau already mentioned. He said that electric lighting was at first welcomed by the insurance people as being safer than other illuminants then in use, but after some costly fires this confidence in the safety of electricity was destroyed. In spite of all the work done to restore confidence, many fires are still caused by electric lighting installations, caused either (1) by use of defective material, or (2) defective installation, or (3) carelessness in handling, or by any or all of these. The principal interest of those who support the Wire Inspection Bureau is to eliminate as much as possible the fires due to the first of these causes. In the early struggles of the organization in behalf of higher grades of material, the active resistance was encountered of manufacturers, jobbers, and contractors, and the support of the insurance interests was very indifferent. But gradually all of this has been changed, and coöperation on the part of all those classes is becoming the rule.

After recounting the earlier methods of seeking the standardization of supplies, and the maintenance of high grades of products, and their very limited success, Mr. Wreaks said:

"In 1905 a happy conception was arrived at, that much better results could be accomplished through factory inspection service carried on continually, in place of the intermittent field inspection of sample goods previously obtained, and to start this service manufacturers of rubber covered wire were approached with this end in view, and the Wire Inspection Bureau was formed and factory inspection service started on rubber covered wire.

"In rapid succession other services were started, until to-day factory inspection is an established fact on rubber covered wire, flexible cord, rigid conduit, flexible tubing and insulating joints, and as soon as minor details are adjusted, will be established on various other electrical fittings. As is to be expected, the service has many friends and others who criticize same. I think the criticisms are due more to misunderstandings and to lack of recognition of the conditions the service is struggling against, and what the service really means, rather than to any opposition against factory inspection label service *per se*.

"One plea that has been made against the service is that it unnecessarily increases the cost of the goods themselves, but a little reflection will show this not to be an item of consideration when it is considered that in no case does the cost of inspection amount to more than one per cent. of the selling price of the goods, and generally it is appreciably less than one per cent., and the increased cost, if any, caused by factory inspection service is in

every case due to the fact that previous to inspection service the goods were not being manufactured up to the standard under which they were sold."

The Wire Inspection Bureau, referred to in the preceding paragraphs, is affiliated with the Underwriters' Laboratories, and has headquarters in the new Engineering building, No. 29 West Thirty-ninth street, New York, with branches in other cities.

ALUMINUM FOR ELECTRIC CONDUCTORS.

THE continued high price of copper, while the cost of producing aluminum is constantly being lessened, has tended to call increased attention of late to the merits of aluminum as a metal for electric conductors. While an aluminum wire must have, compared with copper, a section increased by .63 per cent. and a diameter increased by .28 per cent., there is a saving in weight of 50 per cent. in favor of aluminum. An aluminum line from Niagara Falls to Buffalo, transmitting 15,000 HP. at 22,000 volts, has been in service for three years, having been put up to replace a copper line. In the original line the spans were 75 feet, but with aluminum the spans have been extended to 112½ feet, thus saving 33 per cent. in poles. The use of aluminum for electric cables is extending in Britain as well as in America, one indication of which is the recent issue by Johnson & Phillips, Limited, of a catalogue of such cables made by them.

A NEW INSULATING PITCH.

A NEW insulating material is a by product of Coalite, a fuel prepared from coal under the patents of Thomas Parker, the issue of which in Great Britain is numbered 14,365 (1906). All rights under this invention have been transferred by Parker to an English company, Coalite, Limited, who in turn have sold the English rights to British Coalite Co., Limited, floated recently in London with £2,000,000 [=$9,733,000] capital. At present gas manufacturers put in good class of coal into brick retorts and at a high temperature distil from it gas and by products, and have coke as a residual. By Mr. Parker's method, it is stated, almost any grade of bituminous coal can be treated; it is placed in iron stills, at a comparatively low temperature, and after the distillation a hard, dense, smokeless fuel remains, which has been named coalite. This new fuel is adapted for domestic and industrial purposes, and in addition to being cleanly and smokeless, it is superior to other coal in that a greater percentage of its calorific energy is converted into useful heat. It is said that the gas produced is less in quantity but richer, and that the tar products are nearly double in quantity and far more valuable than the by products from ordinary gas making.

The pitch produced is referred to as being of a particularly high grade, and possessing excellent qualities for electrical work where high insulation is required. By regulation of the degree of distillation the pitch can be manufactured either in a soft condition ready for use in the insulation troughs, or as a hard brittle brick fit for transportation and easily softened by the addition of some of the creosote oil, which is another by product of Parker's system. Parker's applications for patents in the United States and Germany, it is stated, have been allowed. The directors of British Coalite Co., Limited, are connected with the steel and colliery interests, with the exception of Sir William Henry Preece, K. C. B., F. R. S., a notable electrical engineer, who has signed a report commending the insulating qualities of the new product above described.

FUTURE OF THE WIRELESS.

SIR HIRAM MAXIM, the great inventor, says that the unscientific public is expecting too much from the experiments Marconi is making to establish a wireless telegraph service across the Atlantic. Sir Hiram says that Marconi has done splendid work in establishing wireless communication between vessels at sea, if for no other reason than that if a ship is missing nowadays it can be traced quickly. But there is absolutely no reason for the owners of stocks in cable companies to become excited. Wireless telegraphy is more than a plaything, of course, but never will be a serious competitor with ocean cables—at least in our lifetime. Whoever pays to send a cablegram wants to keep it private to himself and to his correspondent, but privacy cannot be secured for messages sent by wireless. This would be particularly felt in time of war, so that, on the whole, Sir Hiram finds very great drawbacks to the wireless system as a practical institution of wide application.

SPARKS.

Benolite is the name given to a new insulating varnish, said to have high dielectric strength and great flexibility. It is said to contain no linseed oil and not to depend upon China wood oil for its characteristics. The black Benolite varnish, applied to insulating tape or cotton covered wire can be dried, it is said, in six to eight hours, at 212° F., giving a hard, glossy surface. It is marketed by the Benolite Co., Pittsburgh, Pennsylvania.

Steel rails and spools are now made for handling and slipping insulated and other wires and cables, instead of the more cumbersome and less durable wooden reels and spools hitherto in universal use for such purposes. The Frank Mossberg Co. (Attleboro, Massachusetts) have brought out a patented line of pressed steel wire reels.

MADISON GARDEN ELECTRICAL SHOW.

THE first annual Electrical Show, at Madison Square Garden, New York, from September 30 to October 9, was designed to embody "all the modern inventions and appliances in the world" that might have any bearing upon electricity. While not everything eligible for the show was to be seen there, there was a great variety of exhibits, and some of them very extensive, complete, and interesting to the engineer and the lay public as well. The show was organized by Electrical Show, Incorporated, a permanent organization under the presidency of Mr. George F. Parker, who is well known in the insulated wire trade. Their offices are at No. 116 Nassau street, New York.

The General Electric Co., with eight exhibition "spaces," showed a wide range of electrically operated apparatus and devices, from rock drills to ice cream freezers; in fact the tone of the show was reflected in a newspaper headline—"Electricity Solves Servant Problem," referring to the number of situations, not only in the world's larger work, but in the household as well, where electricity is now made to lighten or supplant hand work. The New York Edison Co., the National Electric Lamp Association, and the various Westinghouse companies were among the larger exhibitors.

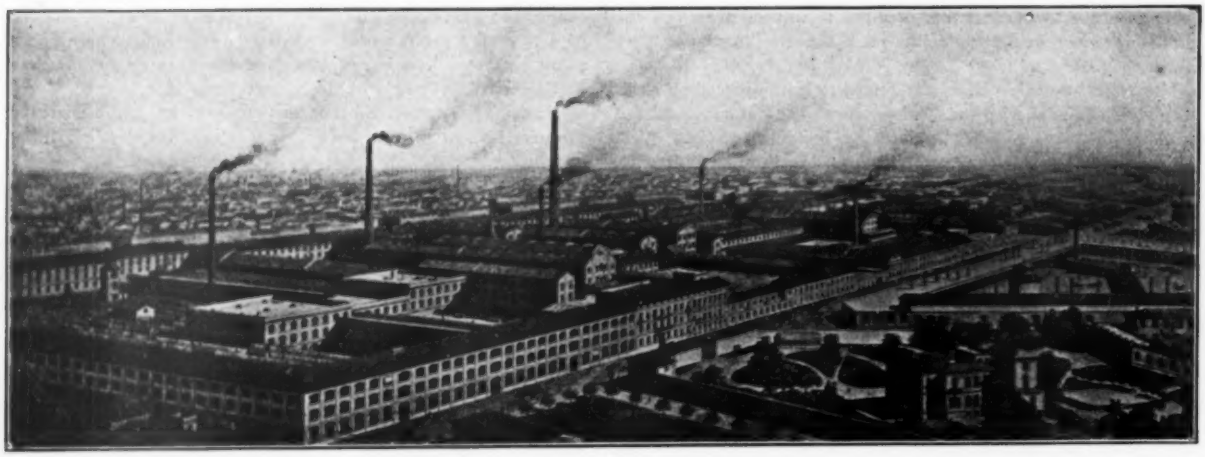
All these applications of electricity, of course, involve the use of insulating material, and particularly rubber. One visitor to the show remarked that the subject of insulation was kept to the front constantly, with a view to reassuring people to whom domestic electrical appliances are new that they are not necessarily dangerous. The India Rubber and Gutta Percha Insulating Co. (New York) had an extensive display of "Habirshaw" wires, cables, and cores, and other insulation products.

THE MILKING MACHINES.

A display which attracted much attention was that of the Burrell-Lawrence-Kennedy cow milker in operation, four cows from a Long Island dairy forming part of the exhibit. These milkers, described lately in THE INDIA RUBBER WORLD, are covered by no fewer than 17 American patents, controlled by the National Dairy Supply Co., No. 32 Park place, New York. The machines call for rubber for the milking tubes and attachments and also, if operated by electricity, for insulation.

CHICAGO ELECTRICAL SHOW.

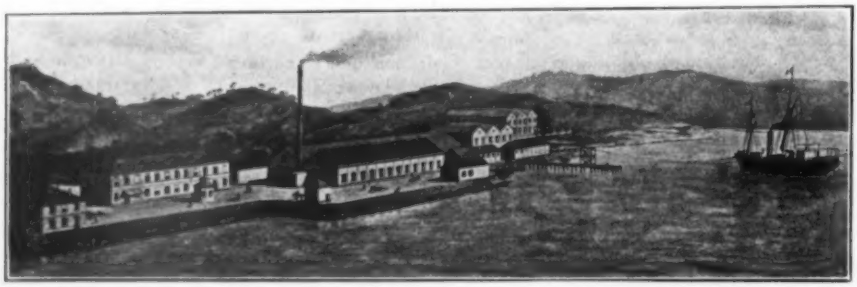
THE third annual electrical show under the auspices of the Electrical Trades Exposition Co. will be held at the Coliseum, in Chicago, January 13-25, 1908. It will be under the management of Homer Hiesz, to whose efforts the success of the two previous exhibitions has been largely credited. His office is at 1006 Monadnock building, Chicago.



WORKS OF PIRELLI & CO., AT MILAN, ITALY.

Italy's Great Rubber Factory.

THE foundation of the great rubber manufacturing firm of Pirelli & Co., at Milan, in 1872, was made possible by the wave of patriotism which led to and resulted from the formation of the present Italian nation about that time.



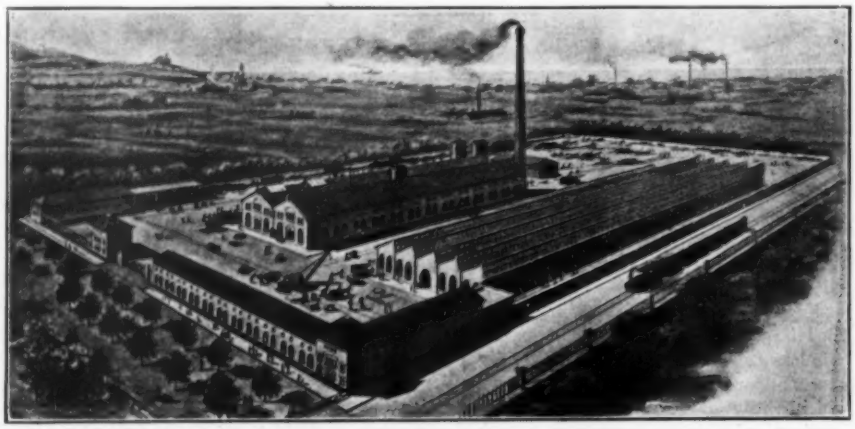
CABLE WORKS OF PIRELLI & CO., AT SPEZIA, ITALY.
[The Company's Cable Ship *Citta di Milano* is shown at the right.]

Italy was then still rather backward in business matters, though Milan has been the great industrial center of Italy for thirteen centuries. It was here that the house of G. B. Pirelli & Co. began making rubber goods on a very small scale in 1872, with a few imported workmen.

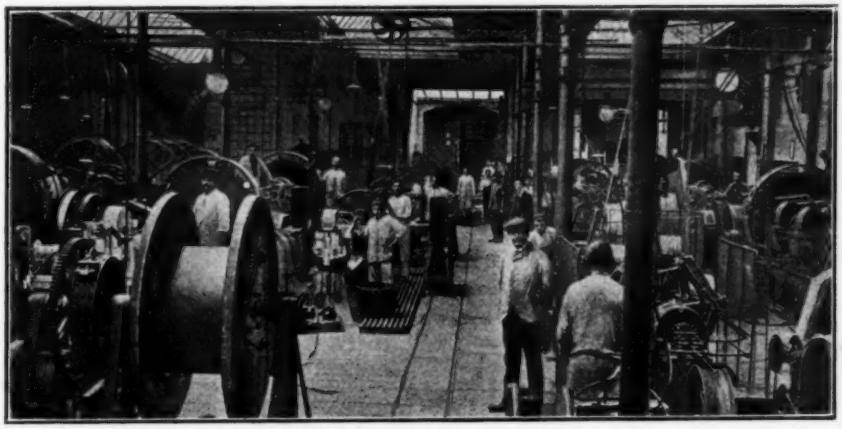
The infant industry won its first recognition in 1875, at the Florence fair. The next year the Lombardy Scientific and Literary Society gave it an endorsement that attracted the attention of the government, thus assuring the success of the enterprise. A partner was taken in, and G. B. Pirelli, F. Casazza & Co. greatly enlarged their plant, and added several new lines of rubber goods—surgical, sporting, and waterproof. In 1878 they began making hard rubber goods, learned insulation, and in 1880 took up gutta-percha work and made some successful underground electrical cables. In 1882 they began the manufacture of rubber thread, being the first European house to compete with England in this important branch. Their success in this line was their greatest triumph, until they came to making sea cables.

In 1883 the partnership was incorporated under the name Pirelli & Co., since when the style of the business has not been changed. At this time the making and laying of sea cables was monopolized by England. Pirelli & Co., encouraged by the Italian government, entered into a successful competition with England, with such results that they now rank among the great cable makers of the world. They were the first firm on the continent to make submarine cables. For this purpose they built the San Bartolomeo plant at Spezia, on the Riviera, in 1886, which remained the only sea cable factory on the continent, until 1890.

The Italian colonial system was well developed by this time, and demanded independent cable connections. The government contracted with Pirelli & Co. to lay all of these cables. The

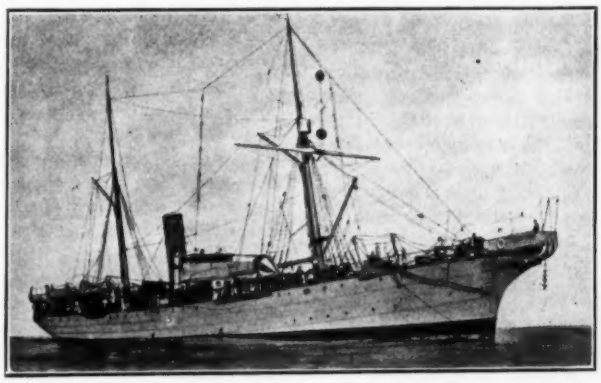


BRANCH FACTORY OF PIRELLI & CO., AT VILLANUEVA Y GELTRU, SPAIN.



VIEW IN PIRELLI & CO.'S MILAN WORKS—MANUFACTURE OF ARMORED ELECTRIC CABLES.

enterprising house ordered a cable ship, the *Citta di Milano*, built in England, which the government admitted into the royal navy. Before either their ship or the San Bartolomeo branch was built, Pirelli & Co. received their first order, at the beginning of 1887, to connect Massawa and Assab with the British cable system at Perim, in the straits of Bab el Mandeb. They bought the cable for this in England, and engaged an English ship to lay it; but since that time they have been in all respects independent of other countries, and have laid thousands of miles of cables for the Italian and Spanish governments, and have taken over the maintenance of many other lines laid by England. Their Spanish branch, founded in 1901, at Villanueva y Geltru, near Barcelona, has grown rapidly, until it is now about one-third the size of the Milan plant. This branch has specialized in insulated wire and cables, and besides perfect equipment, has embodied all the best hygienic and safety appliances.

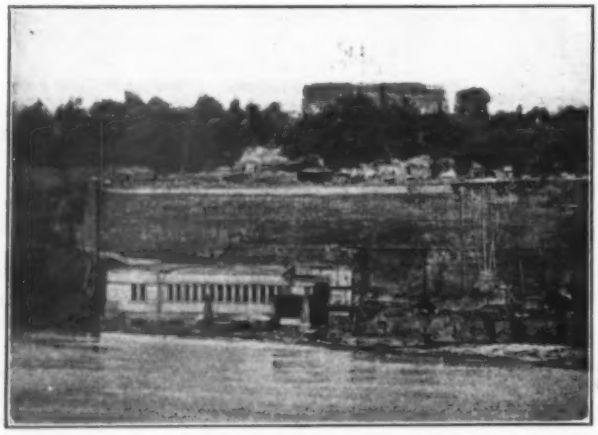


CABLE STEAMER "CITTA DI MILANO."

Pirelli & Co. have a monopoly of all the postoffice, telegraph, telephone and railway wiring in Italy, and have done most of the electrical insulation work for the various municipalities. About one-third of their total business is supplying foreign demands. One of their most brilliant achievements in this line was the conduit work done for the Ontario Power Co., at Niagara Falls, in the United States, to carry the power from the generating to the distributing station. A special type of 5-inch cable was required for this current of 12,000 volt tension. However, they have since made cables, insulated with sheet rubber, which have stood a tension of 150,000 volts. Another interesting bit of work was the laying of a power cable over a pass in the Andes mountains, where they climbed 8,000 feet.

Cable laying is ever spectacular, and the romantic Latins love to dwell on this feature of their business; but as a matter of fact this is not the most important branch of Pirelli & Co.'s business. There is probably no article of rubber, guttapercha, asbestos, or balata which they do not make. They have never gone in extensively for footwear, because the happy southerners do not need rubber shoes; but they supply large quantities of rubber soles for athletic shoes, or for the foreign trade. They have always been strong in rubber compounding, in making rubber and guttapercha solutions, and in taking up new grades of crude rubber. They are always glad to analyze and value such samples of rubber sent in by colonial explorers. Seeking ever to develop Italian resources, they obtained a quantity of rubber grown in Sicily at the Palermo Experiment Station, and from this made an interesting line of hard and soft rubber goods, which they exhibited at the Milan Exhibition

WORKING FORCE OF PIRELLI & CO., AT MILAN.



PLANT OF THE ONTARIO POWER CO., AT NIAGARA, WITH PIRELLI CABLES.

of 1906. Dr. Alberto Pirelli, the son, who is taking charge of his father's business, has braved the dangers of the Amazon valley to study rubber in the initial stages of production.

The breadth and depth of their education have been important factors in the success of the Pirelli family. European manufacturing is thoroughly feudal in character, so that these things mean more than in America. Thus the management of Pirelli & Co. have made it a constant study to promote the physical and spiritual wellbeing and the safety of the 4,000 or more workers in their employ. Aside from the element of philanthropy,

PIRELLI CABLES AT NIAGARA.

they find that such a course pays. Because of this close attention to every detail, Pirelli & Co. have a well ordered house and no labor troubles to interrupt the course of their prosperity.

On taking the form of a joint stock company, in 1883, Pirelli & Co. possessed a capital of 2,000,000 lire [=$386,000], which has been increased gradually to the present date. In 1906 the fgures stood at 7,000,000 lire in shares and 3,000,000 lire in debentures—a total of 10,000,000 lire [=$1,930,000]. Quite recently the share capital alone has been increased to 10,500,000 lire. According to a statement made a year ago their annual business amounted to 17,000,000 lire [=$3,281,000], of which 5,000,000 lire [=$965,000] was in foreign trade. Their total floor space then was about 702,000 square feet, and they employed about 4000 workers. Most of this, of course, was contained in the Milan works, which cover 583,000 square feet, and employed 3200 laborers. There is reason to believe that Pirelli & Co. will continue to expand even more rapidly than they have done in the past, particularly since they have taken up so actively the manufacture of automobile tires.

PRODUCTION OF SULPHUR.

A CRISIS is reported to be imminent in the sulphur trade of Sicily. The mines for the most part have been owned for several years past by the Anglo-Sicilian Sulphur Co., Limited, under whose monopoly the sulphur trade for a time was very profitable. But in view of the growing competition of Louisiana sulphur, the wage scale in Sicily was reduced, until the available labor supply has largely been driven from the island, to seek more remunerative work. The problem with the mine owners to-day is how to secure sufficient labor to keep their business going. By the way, the American consumption of Sicilian sulphur has declined greatly. The importation direct from Italy of crude sulphur in the fiscal year 1901-1902 reached 163,000 tons; in 1905-06 it was only 66,000 tons.

There has been some interest of late in the possibility of mining sulphur in the New Hebrides, Pacific islands of volcanic formation, now held by the French. A British subject claiming a lease of all the sulphur mineral lands on Vanua Lava island has served legal warning upon the French Sulphur Mining Co. to stop trespassing by mining sulphur on that island, all of which is set forth in documents sent to THE INDIA RUBBER WORLD from the municipality of Pango Bay, with a request to "please notice."

THE SULPHUR POSITION IN ENGLAND.

An English correspondent writes to THE INDIA RUBBER WORLD: "After doing very well for its shareholders during the ten or eleven years of its existence, the Anglo-Sicilian Sulphur Co. is shortly to go into liquidation—that is, the sort of liquidation by which the shareholders do not lose any capital, but rather the reverse. It is common knowledge how the discovery of the Louisiana sulphur deposits has knocked the Sicilian industry, which will now be kept going by government aid. In past times the United States was Sicily's best customer for sulphur, but in 1906 the exports to the States were only 8500 tons, against 170,000 tons a few years ago. However, despite the competition which has arisen, consumers don't seem likely to reap any advantage, and in England at all events prices have remained stationary. It seems as well to say this, as the rubber works might think that their chemical merchants were not being quite fair over the matter. The British rubber manufacturers, as far as sulphur is concerned, may be divided into two classes, (1) those who buy sulphur in bags at the lowest price from general chemical merchants, and (2) those who buy it specially prepared free from crystals and acid from those who make its preparation a specialty. There are not wanting also those who are very anxious to obtain the latter qualities at the prices quoted for bay sulphur."

A BIT OF FACTORY PRACTICE.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In reply to inquiry No. 429 (on page 19 of your last issue), how to prevent rubber from sticking to iron molds during vulcanization, I beg to suggest that your correspondent try a solution of two tablespoonfuls of carbolic acid in a pint of lime water. This I have found efficacious when soap and talc have not given satisfaction.

J. W. CARY.

No. 160 Humphrey avenue, Bayonne, New Jersey, October 2, 1907.

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent.

HARDLY any original work has been done in this subject in recent years, and modern authors usually quote the experiments of the late Dr. Mitchell, of Philadelphia, and of Graham, of London, when referring to the topic. In a recent paper, however, written in our London contemporary, the versatile Dr. Ditmar attacks the subject afresh. Probably the account of the experiments and the numerous figures given will not be closely studied by the man of business, and to the scientist it is not particularly reassuring to be told in the last paragraph that the results are in the highest degree remarkable and cannot be satisfactorily explained at present. The matter is not without importance in several branches of the rubber industry, of which hollow balls, gas tubing, and pneumatic tires may be mentioned. I cannot give the reference, but I am sure some one has proved that gas tubing containing a certain amount of mineral matter is more resistant to the passage of coal gas than is pure rubber. The subject acquires new interest for the motorist in connection with the use of Parsons's Sparklet inflators, a novelty introduced by the Parsons Non Skid Co., of London. The inflator consists of a solid drawn steel cylinder containing compressed carbonic acid in the liquid form, and by means of the special valve attachment with which it is fitted tires can be rapidly inflated with a minimum of effort up to 80 pounds pressure. With regard to any action of the gas upon the rubber I see no reason at all why anything injurious should be apprehended as long as pure gas is used. With regard to the question of diffusion of gases, according to Dr. Mitchell, gases which are easily liquefied by pressure penetrate rubber most readily. From this we might conclude that the carbonic acid would pass through the tire more readily than air with its large content of nitrogen. The figures given by Graham for their rubber films show that carbonic acid passed 13½ times as quickly as nitrogen. The conditions in the case of a tire are of course quite different, and against any theories which may be adduced there is practical evidence that tires inflated with carbonic acid have shown no slackening after more than six months use.

PASSAGE OF GASSES.

A MONTH or two ago it was mentioned in these notes that a local firm of repute would probably acquire this concern, situated at Bradford, Manchester, from the liquidator. A limited company with a capital of £40,000 has now been formed in which Charles Macintosh & Co., Limited, hold a controlling interest, Messrs. P. A. Birley and F. H. Smith being the first directors. As in the case of the new Eccles Rubber Co., in which the Macintosh firm are also largely interested, the Broadhurst company will be run as a separate concern, with its own officials and not merely as a branch of Messrs. Macintosh.

BROADHURST & CO., LIMITED.

FROM a general point this new flotation would appear to be sound, especially as the Peruvian consul general is on the board. There is certainly plenty of rubber and of good quality in Peru, and the provision of greater facilities for its gathering is a much wanted step for its exploitation. With regard to the quality of the rubber the prospectus only mentions Mollendo fine. This is a *Hevea* product and the fact that it generally fetches about 2 pence per pound less than Bolivian fine may be attributed to its after condition. Nothing is said as to the existence on the property of caucho rubber. This grade has of late become popular in England, coming as it does in large quantities and of comparatively even quality. I refer to this specially because if this tree occurred largely in the new company's territory one might expect that an improvement in the procedure of collection might be initiated; that is, the substitution of tapping for felling the trees. From a Peruvian official publication I glean that the *Hevea* or "Jebe" rubber trees grow to 20 to 25 meters high. The quality of the product is judged by the color of the latex, the best being violet, and the second quality red or white. The yield depends, among other circumstances, upon the quality of the soil and the altitude where found. It is contended that plantations could be successfully inaugurated if laid out on lines closely approximating to what is found in nature.

THE PERUVIAN RUBBER CO.

IN September a change took place in the directorate of this company, whose works are situated in Cornwall street, Openshaw, Manchester, Mr. George Spencer having joined the board as managing director. Mr. Spencer has held various important positions with Charles Macintosh & Co., Limited, for the last twenty years, more particularly in connection with tires. I understand that the Gorton company intend to double their capacity of output in order to manufacture many other classes of goods besides the tires which have been the principal product of the works so far. That the business previously done is by no means insignificant is seen in the statement that 9000 or 10,000 both of covers and tubes have been turned out per week during the past season.

GORTON RUBBER CO., LIMITED.

MESSRS. CLAYTON BEADLE and Henry P. Stevens have contributed an artice to the *Chemical News* dealing with their analyses of solid motor tires. The details of the mineral constituents are not given, and altogether there is little in the paper to which the manufacturer might object as giving away trade secrets. No novelty is claimed by the authors in regard to methods of analysis, and there is nothing in this direction which appears to call for comment. One or two points of a general nature, however, call for notice. The conclusion they draw from their work is that a thorough chemical and physical examination of a tire will lead to a reliable estimation of its value. This conclusion was also arrived at by Messrs. Schidrowitz and Kaye in a paper referred to recently in these notes, and indeed it is difficult to see how any professional chemist could arrive at any other, human nature being what it is. From a purely personal and business point of view I am quite at one with the above authors in their conclusions, but I recognize that it will not be an easy matter to effect the conversion of the tire buying public, to the extent at least of making them pay cheerfully for the analyses.

MOTOR TIRE ANALYSES.

Messrs. Beadle and Stephens make sundry references in their paper to the time occupied by a complete analysis such as is necessary to determine the vulcanization coefficient, and there is very little disposition on the part of the motor tire purchaser to pay the fee, which cannot by any means be considered excessive having regard to the labor involved. Then with regard to the motor car builders, there is less disposition than there was to contract with one tire firm for the supply of tires over a certain period. In many cases the customers specify which tires they want fitted and the car builder does not concern himself as to their quality. Altogether, important as are the monetary interests involved, there does not seem to be a very fruitful field for the rubber analyst's labors in connection with it, unless perchance he cares to work at the bed rock prices prevailing nowadays in some other branches of analytical work. There is also another view of the matter which is expressed in no hesitating terms by those sceptical of the analyst's prowess. This is that analysis may give you the component parts of the rubber right enough, but that it is of little value in indicating the wearing capacity or probable longevity of the tire. This is a point which

is obviously open to controversy, but while it remains unsettled it must of necessity militate against the work coming in the rubber analyst's direction. In the course of a recent conversation with the writer, a well known tire manufacturer expressed the opinion that 50 per cent. of the wear and tear of a tire lies in the details of its construction rather than in the actual quality of the rubber, and that the best rubber as shown by analysis if badly manufactured or in conjunction with poor canvas would show up badly in practice compared with a much cheaper rubber mixing made up with the best textile material in the most approved manner. This would apply, of course, more to pneumatic than to solid tires, but it has a general application to our subject.

Physical tests are, it should be mentioned, specially referred to by Messrs. Beadle and Stevens as of value, and it is possible that their extended application along with chemical analysis will serve to dissipate the idea of the futility of chemical investigation. The above authors confess to a weak point in analysis and that it is the great difficulty if not impossibility of estimating the amount of reclaimed rubber in a tire mixing. It is acknowledged by them that the use of this material is reprehensible, though this dictum might possibly be challenged by some of the reclaimers. With regard to the particular rubber which has been used they also acknowledged the difficulties confronting the analyst. This latter problem is the more difficult of the two to my mind, but even with regard to reclaimed rubber I should hesitate before making any categorical statement such as would be necessary in a court of law. But to conclude these observations, in one respect at any rate chemical analysis can hardly fail in its purpose; this is in showing whether two tires sold as of similar composition really answer to this description. If they are not practically identical in composition, analysis will assuredly point out the discrepancies and it is hardly necessary to indicate how much information could be usefully applied in trade circles.

TIRE NOTES.

Nor much has been heard of the Radax tire for some time past, but from a conversation I had recently with Mr. L. Johnstone, who has the practical management of the Radax company's affairs, it appears that the construction of the motor tire is being actively carried on at the works of one of the cable companies, where the necessary plant is available. It is not surprising to hear that owing to the prevailing competition and cut prices nothing is being done with the Radax cycle tire.

As already mentioned, Mr. L. Swain has severed his connection with the Dook-Swain Tyre Co., of Ancoats, Manchester. He is now to be found at 277 Deansgate, Manchester. Besides the Parsons non-skid Mr. Swain represents the interests of the Collier tire. I understand that in the last eighteen months, since this tire has been made with beaded edge, it has gained considerably in popular favor, as it can now replace other types of tire at the motorist's will. Formerly, when it was bolted on to a special rim, such substitution could not of course be effected.

Despite the laudatory press notices which accompanied the evolution of the Hallé spring wheel it cannot be said to have proved a success, the complication of its construction being doubtless the main factor which has militated against it.

A new tire fabric, said to be of exceptional strength, has been produced recently by Mr. J. Whittaker, a cotton spinner of Stockport, and if report is to be believed, the mill is unable to respond to the demands made by tire manufacturers for the material.

A somewhat new departure is seen in the Thomas solid motor tire made by the Avon India Rubber Co. In this tire provision is made by means of a special rim for expansion all round, and not as in the ordinary tire for expansion at the sides only. By this means it is claimed that a much greater resiliency is obtained.

At a special meeting of the shareholders of the Scottish Vulcanite Co., Limited (Edinburgh), on September 12, it was resolved to go into liquidation.

RUBBER INTERESTS IN EUROPE.

GREAT BRITAIN.

At the annual meeting of the Premier Cycle Co., Limited (London, September 11), the profit for the last business year was reported at £34,111 [$162,011.82], against £32,420 for the year preceding. These figures cover the operations of the company's branch factory at Nürnberg, Germany.

The directors of British Insulated and Helsby Cables, Limited, announce an *interim* dividend for the half year ended June 30 last at the rate of 8 per cent. per year.

There has been organized among the rubber workers of Edinburgh a branch of the National Amalgamated Union of Labour.

The directors of J. Mandleberg & Co., Limited (Manchester), have declared an *interim* dividend of 10 per cent. for the half year ended June 19.

Mr. Isidor Frankenburg, head of the rubber manufacturing firm of I. Frankenburg & Sons, Limited, of Solford, Manchester, has consented to serve for the third year in succession as mayor of Salford.

GERMANY.

Dr. Heinr. Traun & Sohne, successors to the Harburg Rubber Comb Co., have been enlarging their two plants at Hamburg and Harburg, as they have been obliged to do so often in order to keep pace with the growth of their trade.

A strike was in progress lately at the Asbest- und Gummiwerke Alfred Calmon, A.-G., at Hamburg.

Köln-Ehrenfelder Gummiwerke, G. m. b. H., established in 1905 with 390,000 marks capital, has been converted into the Köln-Ehrenfelder Gummiwerke Aktiengesellschaft, with 1,000,000 marks [=$238,000] capital for the manufacture of a variety of rubber goods. The chairman of the board is M. Streffler, of Cologne. The factory was occupied prior to 1905 as the German branch of the Colonial Rubber Société Anonyme, having been organized for the manufacture of rubber balls under the Cox patents. Upon the reorganization of the business in that year Herr Julius Balla, formerly with the "Prowodnik" rubber works at Riga, became the technical director, and the extensive manufacture of "patent gum" was taken on.

FRANCE.

Societe Industrielle du Caoutchouc (63, rue Taitbout, Paris), organized with 1,350,000 francs [=$260,055] capital, and now in its third year, has acquired from Auguste Harispe (who becomes technical director of the company) the sole rights to use his new processes in the rubber manufacture.

SWITZERLAND.

The firm of R. & E. Huber, whose rubber works at Pfäffikon, in the canton of Zürich, were illustrated in The India Rubber World November 1, 1905 (page 55) have been succeeded by the Société Anonyme R. & E. Huber, Manufactures suisses de Cables et Fils electriques, d'Articles en Caoutchouc. During the past two years the buildings of the rubber department have been considerably enlarged and the scope of production widened. They are now manufacturing all kinds of hose, packings, mats, brake blocks, perambulator and carriage tires, rubber rolls, erasers, and hard rubber articles and also solid automobile tires.

RUSSIA.

The Russian-French India Rubber Works "Prowodnik," at Riga, had net earnings of 1,750,148 rubles [=$901,326.22] for the business year 1906 and paid 12 per cent. in dividends, against earnings of 1,013,495 rubles [=$521,949.93] in the preceding year, with 8 per cent. dividend, according to St. Petersburg *Herold*.

AMERICAN TIRES IN ENGLAND.

In the directory of rubber tires in the British trade, appearing periodically in *The India-Rubber Journal*, the products are named of the following American makers: The Fisk Rubber Co., the G & J Tire Co., the B. F. Goodrich Co., the Goodyear Tire and Rubber Co., and the Pennsylvania Rubber Co.

The Rubber Planting Interest.

INCREASED ACREAGE IN CEYLON.

THE proprietors of the *Ceylon Observer*, having finished the compilation of their "Handbook and Directory" for 1907-08, give out a preliminary statement of the area planted to rubber in this colony. Based upon reports made to them by estates managers and, for the most part, verified, the statement embraces 103,000 acres planted to rubber alone, 41,700 acres to rubber planted in tea, and 10,707 to rubber in cacao. There are also certain returns of "rubber trees," instead of acreage. Applying the customary rules of estimating, the whole is equal to 146,632 acres planted to rubber alone, in proprietary estates, besides which the Messrs. Ferguson feel justified in adding 3400 acres in small native lots, making a round total for Ceylon in August, 1907, of 150,000 acres under rubber. Last year's return of rubber on estates was 103,766 acres.

PLANTING IN DUTCH NORTH BORNEO.

THE Sambas Rubber and Gutta-Percha Co., Limited, registered in London August 24, 1907, with £160,000 [=$778,640] capital, was formed to acquire 131,325 acres in the sultanate of Sambas, Dutch North Borneo, and to develop and extend plantations of india-rubber and gutta-percha. Besides the extensive native growths of rubber and gutta, there have been planted 14,501 *Hevea* rubber trees, 14,499 Ficus elastica, and 35,000 gutta-percha, in the years 1903 to 1905. The purchase price of the concessions, from the Cultuur en Handel Maatschappij Siloewas, of Amsterdam, is £75,000, of which the vendors accept £60,000 in shares of the new company. A favorable report on the properties has been made by Ashmore Russan, a rubber expert of London. There were offered for public subscription on September 2 shares amounting to £55,000. Registered offices: 3 and 4, Fenchurch street, E. C., London.

A NEW ENTERPRISE IN GUATEMALA.

THE West Coast Rubber Co., incorporated March 8, 1907, under the laws of New York state with $250,000 capital, has acquired the finca Puñian de Arrivillaga, consisting of 22,000 acres of forest and pasture lands, in the department of Escuintla, in Guatemala, not far from San José, the chief Guatemalan port on the Pacific. The forest lands include a large number of native rubber trees (*Castilloa elastica*), in addition to which the former owners, for some ten years, annually scattered rubber seed broadcast, from which many thousands of young trees have been produced. The West Coast company have begun the collection of rubber and its regular shipment to New York, and in June planted some 350 acres, putting in rubber seeds "at stake." The officers, all of New York, are Frank E. Morse, president; P. S. Jennings, vice president; and H. S. Stallknecht (No. 16 Exchange place), secretary and treasurer. The Republic Development Co., who have nearly completed planting 4200 acres in Mexico for the Obispo Rubber Plantation Co., have subscribed for one-half the capital stock of the West Coast company and begun the development of Plantation Puñian. Mr. Jennings, named above, is president of the Republic Development Co., and Maxville Riddle, manager of the Obispo plantation, is a director in the West Coast company.

HAWAIIANS PLANTING IN THE MALAY STATES.

MENTION was made in this paper recently [February 1, 1907—page 147] of a company formed in Hawaii to establish a plantation of *Hevea* in the Malay peninsula. The promotors, The Waterhouse Co. (Honolulu), have recently floated a second company, Tanjong Olok Rubber Plantation, Limited, incorporated under the laws of British Columbia, with $140,000 capital authorized, to plant in Johore, on land leased from the government of that state, which adjoins the Federated Malay States. Tanjong plantation will be on the Muar river, below the noted Lanadron estate of the Messrs. Pears. Dr. E. T. Waterhouse, of Honolulu, is president of the new company; Paul R. Isenberg, vice president; and Fred T. Waterhouse, secretary and treasurer. The estate manager is Frank G. Wallace, some time with the Sandycroft estate. At last accounts 300 acres had been planted to rubber.

PLANTING IN EAST SUMATRA.

THE latest edition of Hallerman's "Adresboek," published in Sumatra, records 44 companies engaged in rubber culture on the east coast of that island, distributed throughout the various districts thus: Serdang, 17; Langkut, 7; Padang Bedagei, 6; Batoe Bahra, 6; Laboean Batoe, 4; Asahan, 2; Siak, 2. Of these, 14 are planting rubber alone; the remainder are planting other crops with rubber as follows: Coffee, 19; tobacco, 4; coffee and cocoanuts, 2; tapioca, 2; groundnuts, 1; coffee and tobacco, 1; cocoanuts, 1.

PLANTING IN JAVA.

THE Belgisch-Nederlandsche Cultuur- Maatschappij, operating in Java, reported as having planted, at the end of 1906 (since which time considerable more rubber has been put in), about 527 bouws [=1302 acres] in *Hevea Brasiliensis*, there being 531,422 trees recorded. On the company's estates at Tijrandji, Passir Empoe, and Tjoeroeg the company are planting cocoanuts and, as "catch crops," cacao and ground nuts. The company is capitalized at 700,000 florins [=$281,400].

GOOD PROGRESS IN HAWAII.

THE Hawaiian rubber growers have formed an association for the purpose of assisting each other by coöperation. THE INDIA RUBBER WORLD is informed that the Nahiku Rubber Co., Limited, at Maui, T. H., expect to begin tapping within a year, and by the fall of 1909 will have 100,000 trees ready for tapping, if the rate of growth thus far should continue. The trees under cultivation are *Manihot Glaziovii*, of which species our correspondent writes: "I do not think that there is any place in the world where the 'Ceará' tree has made such a wonderful showing as it is doing here."

INTERESTS IN RUBBER IN PAPUA.

THE commercial agent for Canada at Melbourne writes that the director of agriculture of Papua, or British Guinea, now under control of the Australian commonwealth, has recently planted for experimental purposes many thousands of Pará rubber stumps, from which successful results are predicted. Large areas of land are being taken up by Australian investors interested in rubber. A company registered in London August 26, is the Papua Rubber and Gum Syndicate, Limited, with £2,500 capital.

EVEN SIAM PLANTS RUBBER.

A PRIVATE syndicate in Bangkok, after running a rubber estate for 18 months, has formed itself into a company registered at Singapore as the Kombok Rubber Co.

PLANTING IN THE FRENCH CONGO.

THE French colonial government has issued a notice to *concessionaires* in the French Congo engaged in exploiting rubber, calling their attention to the neglect of existing regulations requiring a certain amount of rubber planting, in proportion to the exports of crude rubber, the regulations being similar in character to those enforced in the Congo Free State. Not only are the *concessionaire* companies required to plant rubber as stated, but it is announced that the natives may discharge a por-

tion of the small head tax imposed annually by setting out a certain number of rubber plants. Both the "ireh" trees (*Funtumia elastica*) and *lianes* (creepers) may be planted.

YIELD OF PLANTED RUBBER

THE yield of plantation rubber is treated in some detail in the *Tropical Agriculturist* by Ivor Etherington, in a study of the last published annual reports of 41 companies producing rubber in Ceylon and the Federated Malay States. The statistics relate to 1906, and comprise a total yield of 1,164,033 pounds of rubber, ranging from only 851 pounds for one estate to 153,358 pounds, harvested by the Vallambrosa company. [See THE INDIA RUBBER WORLD, October 1, 1907—page 8.] It is difficult to arrive at the average yield per tree, for the reason that the trees vary in age, and all have not been tapped the same number of times. It may be of interest, however, to note that on 18 estates 402,801 trees yielded 670,433 pounds of rubber, or 1⅔ pounds per tree.

On the two estates of the Highlands and Lowlands company the following results were obtained, the trees on the second estate being younger than on the other:

	Trees.	Pounds.	Average.
Highlands and Lowlands	38,639	95,333	2.46
Batu Unjor	39,874	38,952	97

On the first estate a yield of over 7 pounds per tree was obtained from 807 trees planted in 1899 and widely planted over 16 acres. The result of three tappings of these trees was:

	Pounds.
First tapping	2,500
Second tapping	1,469
Third tapping	1,773
Total	5,742

Some large yields of *Hevea* rubber are recorded in the report of the director of the Ceylon royal botanic gardens for 1906. They result from tapping trees during eleven months (November, 1905-September, 1906), in a series of experiments with different methods and under varying conditions. For instance, three groups of 5 trees each (size and age not stated) were tapped by the long spiral system, each group for a different number of times, with the average yield per tree of dry rubber stated below:

	Tapped.	Yield.	
First group	270	11 lbs.	0 ozs.
Second group	136	12 "	8 "
Third group	44	3 "	13 "
Fourth group	11	0 "	10 "

One tree, tapped 93 times by the full herring bone method, gave 14 pounds 8 ounces of rubber; two trees tapped 84 times by the same method averaged 15 pounds; and one tree tapped 78 times by the full herring bone method gave 10 pounds 14 ounces. These trees were tapped at different seasons, and with varying tapping areas, most of the details of which do not appear in the report, nor is the condition of the trees after tapping referred to. The figures are given space here merely as showing the rubber yielding capacity of *Hevea* under cultivation.

AS TO OVERPRODUCTION.

WRITING on this subject, in the preface to the "Tropical Investors' Guide" [see THE INDIA RUBBER WORLD October 1—page 19], F. Crosbie Roles says: "In 1908 Ceylon and Malaya may reach the giddy altitude of producing an eightieth part of the world's supply—say 300 tons from Ceylon and 600 tons from Malaya—but the after advance will not be rapid until the large areas planted in 1905, 1906, and 1907 come into bearing in 1911 and onwards. There may be at the present time 120,000 acres under rubber in Ceylon—30,000 acres of it widely planted through tea—and the rate of development reached its high water mark in 1906. In other words the extensions this year will be smaller than last year's; and it is difficult to imagine that Ceylon will ever possess more than 220,000 acres of rubber in full bearing. Even this area will be reached gradually, and only under the encouragement of sustained good prices, with ample and cheap labor prospects. - - - The annual yield from 220,000 acres of rubber at 140 trees to the acre and 1½ pounds of rubber per tree—which is a full estimate of both trees and yield over a large area—is 20,000 tons, realizable possibly in 1820. In the Malay peninsula in the same year 40,000 tons may be produced, with 15,000 tons from the Dutch colonies and Borneo." By this time, Mr. Boles thinks, the uses of rubber will have increased to such extent that the increased output which he forecasts will not amount to overproduction.

STATISTICS OF PRODUCTION.

	1907. Pounds.	1906. Pounds.
Anglo-Malay Rubber:		
September	22,260	11,300
January-August, inclusive	126,701	53,818
Vallambrosa Rubber:		
September	17,129	13,769
April-September, inclusive	103,908	55,376
Kepitigalla Rubber Estates:		
April-June, inclusive	10,141	5,736
Perak Rubber Plantations:		
April-July, inclusive	7,203	4,362
P. P. K. (Ceylon) Rubber Estates:		
January-July, inclusive	7,109	3,273
Highlands and Lowlands:		
August	25,614	12,625

RUBBER AT AN AGRICULTURAL FAIR.

RUBBER occupied a position of importance at the fourth annual joint agri-horticultural show in Malaya, held this year at Kuala Kangsar, in the state of Perak, beginning on August 9. Exhibitors of Pará rubber received awards as follows: Highlands and Lowlands estate, for dry block and wet block; Vallambrosa estate, dry block; Lanadron estate, dry block; Bukit Rajah Hope estate, crepe rubber. The governor's cup was awarded to A. D. Machado. Highlands and Lowlands estate and Golden Hope estate won prizes for rambong (*Ficus elastica*) rubber. The show was attended by the British high commissioner (Sir John Anderson, K. C. M. G.), the sultans of Perak, Selangor, and Johore, and many other notables, all of whom seemed interested in the part that rubber is taking in the development of the Malay peninsula. Fifty elephants competed for prizes at the show and the crowds were entertained with moving pictures.

NEW SUBSTITUTES FOR LEATHER.

THE British Leather Cloth Manufacturing Co., Limited, of Hyde, near Manchester, are marketing in a variety of qualities, colors, and leather grains, a material for upholstering furniture, carriage and motor tops, and also for bookbinding and the like, which they call "Rexine." It is referred to as waterproof, scratchproof, and hygienic, and has been supplied to many branches of the government service in Great Britain, and also to the governments of the colonies and various other countries, and to railways in South America and the Far East. The material belongs to the class of which "pantasote," an American product, is a prominent type.

"RUBBERNIT" FOR CARRIAGE TOPS.

C. L. STEWART, of Rutland, Vermont, whose waterproofing compound for horse and wagon covers and the like has been referred to in THE INDIA RUBBER WORLD, has developed specimens of cloth treated by it fitted for hospital sheeting, and heavier types for carriage and automobile tops. This "Rubbernit" fabric is tough, pliable, and apparently durable and is referred to as improving with age. Mr. Stewart is prepared to sell his formulas to a waterproofing concern or to organize a new company.

Mr. Stewart says: "The spread cloth can be proofed; there is no vulcanizing; can be made in any color; no noticeable odor; tough and durable; not sticky in hot weather nor stiff in cold; will not crack or peel; wears better than oiled or rubber goods."

A Leading Rubber Planter.

THE portrait on this page is that of Mr. H. K. Rutherford, of London, chairman of the Rubber Growers' Association recently formed in that city. The objects of this association, by the way, are to promote the mutual consideration and discussion of all questions affecting the members as persons interested in or connected with the growing of rubber, particularly in the Far East, and to watch over and protect such interests, and to do all such other lawful things as are incidental or conducive to the attainment of these objects. The occasion seems appropriate for placing before the readers of THE INDIA RUBBER WORLD a brief summary of the work of one of the leading men now engaged in the cultivation of rubber.

Mr. Rutherford went out to India in 1869 and was engaged there and in Ceylon for many years as a civil engineer, in the construction of railways. Like many Scotchmen, however, he was not afraid of turning from the procession in which he had been trained and devoted his talents into a field where he saw greater opportunities for success. His first venture in tropical agriculture was in the growing of cinchona which in the "eighties" promised a rich reward to those who ventured into it. These hopes, however, were not realized, and although a few planters did well at the start, the whole industry, in a few short years, died out, and at this time no cinchona or quinine bark is grown in Ceylon.

H. K. RUTHERFORD.
[Chairman of the Rubber Growers' Association (London), and of important rubber and tea planting companies.]

The subject of our sketch then ventured into what, in those days, was the somewhat speculative course of opening up land in the low country of Ceylon for tea, in connection with a few other engineers who were partners with him in the railway contracts. Success crowned the venture and the lands they then opened up, and afterwards acquired or amalgamated, now form what is known as the premier tea company of Ceylon, viz., the Ceylon Tea Plantations Co., Limited, with a £248,460 [=$1,209,130.60] capital paid in. Mr. Rutherford has been chairman and managing director of this company practically from its inception. It has paid regular dividends of 15 per cent. for the last twenty years. Added to its magnificent tea estates it has now some 2000 acres planted with rubber and its £10 shares stand in the market at £36. The company's production of tea in 1906 was 4,671,371 pounds, besides other crops.

Mr. Rutherford was early in the field in planting rubber in the Federated Malay States, and has considerable interests there and in Java and Ceylon in various rubber concerns. He is chairman of the Bukit Rajah Rubber Co., Limited; The Federated (Selangor) Rubber Co., Limited; The Seafield Rubber Co., Limited, and The Batu Caves Rubber Co., Limited. He is also a director of The Pelmadulla Rubber Co., Limited; The Java Rubber and Produce Co., Limited; The North Hummock (Selangor) Rubber Co., Limited, besides being interested in several other companies dealing in tropical produce, including an important coffee growing company in the state of Sao Paulo, Brazil, on whose estate some 400 acres have been planted to rubber this year. Several of the rubber companies named above are harvesting rubber, the Bukit Rajah estates alone having yielded 118,982 pounds last year. It may be added that some of the rubber planted among the tea by the Ceylon Tea Plantations Co. is also now in tapping.

Mr. Rutherford is 61 years of age and early in the present year made a trip to Ceylon and the Federated Malay States. On that occasion he visited every property with which he was connected, and was thereby able to inform the shareholders in the various companies exactly how matters stood on each, and also to instil a degree of confidence among them which probably few other directors could have done. Mr. Rutherford's views on the capabilities of the East with regard to the future of rubber have been expressed in his many utterances and writings, and have from time to time been given to our readers of this journal. He is a firm believer that Eastern planters will in time be able to successfully compete against all comers in the various markets of the world, owing to the fact that labor is so much cheaper there than in other rubber producing countries. Java he expects to be the cheapest producer, Ceylon next, followed by the Federated Malay States. Having been so long, however, connected with tropical agriculture and seen its many vicissitudes, he does not shut his eyes to the fact that the unexpected may happen in rubber also. The risk of disease to the trees of the *Hevea* variety, owing to the species not being indigenous to the Eastern hemisphere, the risk of labor troubles when the vast areas planted and being planted come to the producing stage, and the possibility of a substitute for rubber being discovered must all be weighed up and taken into the consideration of any one embarking in the industry.

The office of the secretary of the Rubber Growers' Association, it may be mentioned here, is at 1, Oxford court, Cannon street, E. C., London.

PLANTING MISCELLANEA.

DR. J. C. ORCUTT, writing from the *finca* "La Luisa" to the *Mexican Investor*, notes the result of measuring 30 four year old *Castilloa* trees, at two different dates. On May 27 last their average circumference was a fraction over 21 inches; on August 8 they averaged just 3 inches more, or 24 inches. Dr. Orcutt says the trees were four years old (from seed) about July 1, and he estimates their average girth on that date at 22½ inches.

The schools of instruction in rubber established by the government of French West Africa for the benefit of the natives, have been referred to in this journal. A recent decree provides for their extension to the colony of French Guinea. There are two periods of instruction yearly: (1) In rubber planting and culture, during June and July; (2) in the tapping of rubber trees, coagulation, and preparation for market, during October, November, and December. At the end of the second period the rubber collected is sold and the proceeds divided among the pupils.

Recently an illustrated lecture on rubber culture in Mexico was given before a large audience in London by Mr. Alfred Berry, of the Chilean Exploration and Development Syndicate, Limited, which controls, it is stated, some important rubber enterprises in the Mexican state of Oaxaca.

Vacuum driers are being offered to the rubber planters of the Far East having a capacity up to 330 pounds of wet rubber at a charge.

A Ceylon newspaper, reporting the settlement of the estate of a local planter lately deceased, prints an inventory of his property, including 538 shares, in no less than five large rubber planting companies.

COMMERCIAL VEHICLE TRIALS.

THE commercial vehicle trials in England, which came to an end during the past month, under the auspices of the Royal Automobile Club, have concentrated the attention of the public and the trade alike to a very large degree upon this type of self-propelling vehicles and the net result can hardly fail to be an increased demand for motor cars for commercial purposes. Of the judges, 8 represented the Automobile Club, 5 the Commercial Motor Users' Association, and one the Society of Motor Manufacturers and Traders, so that the trials were a matter of concern to many interests. As officially stated—

"The object of the trials is to demonstrate in a convincing manner the advantages of mechanical haulage over horse haulage for the transport of freight, and to show the great progress which has been made in the construction of commercial motor vehicles, particularly in matters of efficiency, economy, and reliability."

Twenty-nine competitors entered 60 cars, of various types and capacity, of which 56 actually started. Forty of the cars were of British manufacture, that country having been always to the fore

AT THE COMMERCIAL VEHICLE TRIALS.

[The Thames van entered by The Palmer Tyre, Limited. The body represents a section of the well known Palmer Cord tire, and the whole forms a specially smart little van. The chassis is a standard 15 cwt. 10-12 H. P. Thames, with the back axle and springs specially strengthened to carry 20 cwt. The van was equipped with Palmer Cord tires—35x5 inches front and 32x5 inches rear.]

in the construction of commercial vehicles. The touring began from London on September 9 and ended there on October 12, being divided into 22 road trips, touching at all the principal towns in England, and covering 34 secular days. At eight of the towns at which stops were made formal "exhibitions" of commercial motor vehicles were held. The awards were to consist of Royal Automobile Club medals and special prizes, based upon markings under 18 heads, all relating to practicability and economy of operation.

It would appear that the matter of tires was not taken into account in marking points for the awards, though tires have been very much discussed in connection with the trials. Nearly all the entries were equipped with rubber tires; a few heavy steam lorries had steel tires, and one or two had wooden block treads. A few vans had pneumatic tires, front and rear, and some others pneumatics in front and solids in the rear. For the most part, however, solids were used, for the most part with "twin" tires on the rear wheels. No less than 41 of the whole number entered were thus equipped. The average sizes were 34 × 4 inch single or twin tires for two ton vehicles; for the three ton vans 34 × 4½ inches on the front and 40 × 4 inches on the rear wheels.

Every report that has come to hand relates in some way to the tire feature, and fairly representative of the prevailing sentiment, perhaps, is the following paragraph from *The Commercial Motor*, a London journal which has given special interest to the late trials:

"THE TRIUMPH OF RUBBER.

"We have already referred at some length to the revolution in transport which the self-contained, rubber-tired, petrol vehicle for 5-ton loads may cause in existing conceptions of the possibilities in long-distance haulage, and we would now direct the special attention of all who are following our reports to the remarkable advantages which are conferred by the use of solid-rubber tires. We detect the fact that many tendencies and considerations are in the direction of the rubber-tired, high-speed lorry. Absence of noise, reduced general maintenance, lighter vehicles, and greater performance are all coming within the scope of practical politics by reason of recent improvements in the manufacture of such tires, and as a sequel to reductions in their cost. Hight as both their first cost and their maintenance may appear to the casual enquirer, he who enquires further will incline to the view that, except in the case of the very heaviest axle-loads, where speeds are restricted to five miles an hour, the extra outlay upon rubber tires is more than recouped in the results which they alone render possible."

The tire equipment of the 60 cars entered is stated by one of the motor car journals to have been as follows:

Shrewsbury & Challiner	9	Turner	1
Sirdar	6	Gaulois (French)	5
De Nevers	6	Continental (German)	3
Dunlop	2	Polack (German)	11
Palmer Cord	1	Peters Union (German)	3

Besides, two cars were equipped with Dunlop tires on the front and De Nevers on the rear wheels.

THE RETURN OF THE BICYCLE.

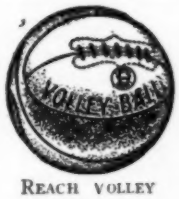
IN an article on bicycle tires the well edited *Sporting Goods Dealer* (St. Louis) says: "With the discussion of tires our attention is called to the bicycle as a side line for the dealer in sporting goods. It is probable that there is not a line that the dealer could handle on the side which is more easily sold or more profitable to handle than an up-to-date and attractive stock of such. The demand for good, easy running, responsive bicycles has increased enormously within the past two years. There are more bicycles being used, and every day is seeing more of them purchased, so that the sporting goods dealer who fails to grasp this opportunity of adding to his trade and profits is surely wilfully blind. Let him look around for himself; let him note the number of bicycle clubs that are being formed; let him note the interest of the buying public—the real, live, human interest, and he will agree that more bicycle enthusiasm is now being displayed than for a term of years. And this condition does not exist only in one locality, but the situation is the same the world over. No, we do not see anything but good times ahead for the bicycle, and the dealer who will take up the line in dead earnest. Cycling has come into its own again, and is strongly and distinctively all right."

COLLECTING A BILL FOR TIRES.—A citizen of Denver, though reputed wealthy, allowed a bill for a set of automobile tires to become so long overdue that the dealer became more than impatient, says *Motor World*. One morning this same citizen, leaving his car at the curb while visiting a friend's office, was surprised on coming out to find the tires missing from it. He called the police, who traced the tires to the firm who had sold them, and who told the police that they had simply taken back a set of tires for which they had been unable to collect payment, and cancelled the invoice.

New Rubber Goods in the Market.

VOLLEY BALL.

THIS is one of the newer games and is one which lends itself equally to indoor and outdoor sport. It partakes somewhat of both tennis and handball, and hence is sure to be popular with devotees of both sports. One of the charms of the game is that it may be engaged in by any number of persons. As it is new and preëminently fitted for the gymnasium or exercise hall, it is obvious that it will be much practised during the coming winter. Its simplicity does not exclude any, as the game consists of keeping the ball in motion over a high net, from one side to the other. The ball is made in the regulation size of white leather with pure rubber bladder, in two grades of leather. The list price is from $2.50 to $4 each. [A. J. Reach Co., Philadelphia.]



REACH VOLLEY BALL.

"EMPIRE" TIRE REPAIRER AND PAD.

MANY a tire blowout has been prevented by placing a protector over a tire that is on the point of developing a break in the fabric, and to this end the "Empire" protector has been placed on the market. It is strongly made, having a heavy rubber tread and is warranted to withstand a great amount of service.

EMPIRE TIRE REPAIRER.

TIRE PAD.

It is made for 2½, 3, 3½, 4, 4½, and 5 inch tires. The pad is intended to be placed inside the outer case when the fabric is broken. It should always be used in connection with a tire protector, as it will prevent damage to the tube through coming in contact with the broken fabric. [Empire Automobile Tire Co., Trenton, New Jersey.]

COMPLEXION BRUSH.

ONE of the great secrets of perfect health is now conceded by the profession to be found in a knowledge of sanitary laws and adherence to them. In no particular is this knowledge and its corresponding enforcement so necessary as in the care of the body, as in the bath, for example. It is important to keep the pores of the skin free from dust, and this, it is claimed, cannot be satisfactorily done with the ordinary cloth or sponge, but a certain amount of friction is needed in order to assure cleanliness. The friction also serves another purpose, that of stimulating circulation. With this end in view many bath appliances have been put on the market, but in no field is there greater activity in the output than in the rubber industry. In so large a percentage of cases the rubber complexion and massage brush seems "to fill the bill." One of these brushes that is much used is the one manufactured by the Pennsylvania Rubber Co., Jeannette, Pennsylvania.

COMPLEXION BRUSH.

A RAZOR IN A RUBBER CASE.

FOR the man who shaves himself, the Arnold Fountain Safety Razor lays claim to many superior advantages; and to the man who does not shave himself, this razor may offer reasons why he should. It is in effect a combined regular and safety, with the advantages of both and some that are peculiar to itself. In its case it has the shape and size and exact appearance of a handsome gold mounted fountain pen, and as such can be easily

ARNOLD FOUNTAIN SAFETY RAZOR.

carried in the vest pocket, and thereby the possibility of traveling without it or of the annoyance of being cumbered with various attachments is overcome. And there are no delicate parts to get out of order and no detached parts to lose. The case is made of the best vulcanized rubber, handsomely chased. [Arnold Safety Razor Co., Reading, Pennsylvania.]

"ECLAIR" PUMP CONNECTION.

THE average tire pump connections have been found to leak more or less, and also that the leak increases with the pressure. With the new "Eclair" connection the exact opposite obtains, for as the pressure increases the air in the compression chamber expands the rubber washer, which is an integral part of the connection, and so augments its adhesion to the tire valve. In short, the law upon which its construction is based is that the harder one pumps the more perfect the connection. The attachment to the tire valve is made by simply pressing it on, and its

"ECLAIR" PUMP CONNECTION.

"ÉCLAIR" PUMP CONNECTION DISASSEMBLED.

removal is just as simple. It merely has to be pulled off. No screwing or unscrewing has to be done. The apparatus consists of a compression chamber hermetically sealed by a rubber washer of special construction. This washer is held in place by a metal disc which is screwed into a removable ring placed over the compression chamber, and is drawn up tightly against a flange by means of a metal disc. It might be supposed that this rubber washer would readily wear out and lose its usefulness, but on the contrary its life seems to be most enduring. It is said to have been tested exhaustively with the result that from 4000 to 5000 inflations are necessary before the substituting of a new washer. This substitution can be made, however, in a moment's time. It can be attached to any pump and fits any tire valve. [Leon Rubay, No. 1697 Broadway, New York.]

STEEL ARMORED IGNITION CABLE.

THIS is something that is new in the way of cables and is covered by recent patents. It consists of a special rubber cable protected by a flexible steel armor. Several layers of rubber alternate with layers of a new compound, and the whole is covered by a paraffined waterproof braid. The last braid is embraced by a strong steel armor which, although protecting the cable against injury, does not by any means interfere with its flexibility. The steel armor is brought into conducting connection with the ground by means of a wire coiled around it. The advantage of this invention manifests itself in an increase of the spark in the plug, in some cases more than doubling its efficiency, it is said. The application of the smaller size to the primary circuit brings the spark in the circuit breaker, resulting from a poor coil to complete disappearance, thus lengthening the

STEEL ARMORED IGNITION CABLE.

life of the circuit breaker. The cable is sold cut to the desired length for each motor and fitted out with special terminals ready to be hooked to the engine without any additional work whatsoever. It is now being used in some of the large American and European automobile factories. [Herz & Co., Nos. 203-205 Lafayette street, New York.]

PORTABLE WHEEL TANK FOR GASOLENE.

BY the use of this tank the old method of drawing gasolene from a tank into an open can and then transferring this to the desired car is done away with entirely, likewise its attending dangers. To meet the demand for a safe and convenient method of filling a number of cars with gasolene, this tank has been perfected, and so far facilitates the labor of the garage that each car may be filled without the necessity of moving any. The tank can be wheeled to any part of the garage, or if desired, to the curbing, to fill the car of some transient autoist. And the best part of it all is that the gasolene is never exposed to the air. In order to fill the wheel tank the gasolene hose, attached to the hose nozzle of a long distance pump, is inserted and the desired amount is drawn, and the gallon meter on the pump will register the amount of gasolene delivered to the wheel tank, preventing any overflow and serving as a check on the garage attendant. Then, wheeling the tank to the car to be filled, the gasolene hose is inserted in the reservoir of the car and the required amount pumped. The discharge register on the pump will tally the number of gallons delivered at each operation. The receptacle on the front of the tank is provided for the office copy of the charge slip, and is locked and can only be opened by the person authorized to attend to it and provided with a key. The hose provided with each outfit is especially constructed to withstand the destructive effects of gasolene. The nozzle which is inserted in the reservoir of the car is so placed that evaporation is prevented and a shut-off screw controls the gasolene supply at the pump and also at the car. The wheels and also the guide wheels are provided with rubber tires, and each tank is provided with a magnetic gage which tells at a glance the amount of gasolene remaining. [S. F. Bowser & Co., Inc., Fort Wayne, Indiana.]

WHEEL TANK FOR GASOLENE.

TIRE TRUNK AND COAT RAIL BAG.

THE perfect safety of this little tire trunk is one of the strongest appeals it makes to the autoist. First, it is so constructed that the cover locks and then the trunk is locked to the spare tire into which it fits, although it can be carried on the top of cars with stationary tops. Inner tubes and the many other articles indispensable to the tourist may be easily and safely placed in this receptacle and, though out of the way when not in use, most accessible in the time of need. It is made in two sizes, each being made in two depths. For 30 and 32 inch tires there is the 6 inch depth, and for 34 and 36 inch tires the 9 inch depth. Besides black enamel, the trunks can be made in colors—maroon, blue, red, green, white, yellow and French grey. One of the illustrations shows the trunk in position and partly opened. The Coat Rail Bag is also a useful accessory. It is suspended from the coat rail of the car and does not interfere with the use of the rail. The bags are all made 24 inches long and 24, 30, and 36 inches wide, according to the width of the rail. The two large pockets can be used to carry road maps, veils, caps, gauntlets, and the like, while in the small pockets the goggles and smaller articles may rest securely. Hats, coats, and other articles may be stored in the bags, as occasion may require. They are made of grey mackintosh, black rubber cloth, and fabric leather in colors. [Nathan Novelty Manufacturing Co., Nos. 84-90 Reade street, New York.]

NATHAN COAT RAIL BAG.

NATHAN TIRE TRUNK.

A PNEUMATIC HELMET.

TRACK cycle racing, paced by motor bicycles, which is still in vogue in various parts of Europe, ranks among the most dangerous sports of the day. This sport particularly is referred to as having been the cause of bringing into existence the pneumatic helmet, which consists of a leather cap shaped like a football, containing a rubber bladder. This is pumped up, and if the motor-cyclist is precipitated against a wall the rubber buffer saves his neck.

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED SEPTEMBER 3, 1907.

NO. 864,841. **Vehicle rim [with tire retaining means].** L. B. Gast and J. Gast, Jr., Akron, Ohio.

864,911. Vehicle wheel rim [for pneumatic tires]. J. M. Padgett, Topeka, Kans.

864,919. Adjustable hose nozzle. C. R. Ross, assignor of one-third to Ada E. Streeter, both of Kansas City, Mo.

864,926. Cellular pneumatic tire. E. C. Schoonmaker, Perham, Minn.

864,952. Storm front for vehicles. O. A. Charles, assignor to Rex Shield and Mfg. Co., both of Connersville, Ind.

864,983. Spare tire holder for automobiles. L. P. McKinley, assignor of one-half to J. L. Snow, both of Boston.

864,988. Milking machine and connections. F. Raven, Korrumburra, Victoria.

865,028. Vehicle tire [tread composed of rubber blocks]. G. O. Fankboner, Cleveland, Ohio.

865,039. Means for securing soft tread tires to rims. F. M. Hilton, J. S. Hilton and W. M. Hilton, assignors of one-half to H. Musser, all of Akron, Ohio.

865,134. Rubber tire setter. H. L. Stoup, Ypsilanti, Mich.

865,137. Shower bath apparatus. Nannie L. Wallen, Chicago.

865,146. Hose nozzle. H. M. Albee, Nutley, N. J.

865,184. Firehose holder. J. Kenlon, New York city.

865,288. Tread for pneumatic tires. E. K. Baker and C. G. Hawley, Chicago.

865,306. Means for securing soft tread tires to rims. F. M. Hilton, J. S. Hilton, and W. W. Hilton, assignors of one-half to Harvey Musser, all of Akron, Ohio.

865,326. Pneumatic tire casing or shoe. E. K. Baker and C. G. Hawley, Chicago.

Trade Marks.

19,608. Daimler-Motoren-Gesellschaft, Untertürkheim, Germany. The word *Mercédès*. For sheet rubber, rubber tires, and foot wear and other articles of rubber.

28,742. The Goodyear's Metallic Rubber Shoe Co., Naugatuck, Conn. Fancy shield bearing the words *Wales Goodyear*. For rubber footwear.

28,743. *The same*. The words *"Wales Goodyear."* For rubber footwear.

29,185. Pacific Coast Rubber Co., Seattle, Wash. The words *Red Devil*. For rubber tires and inner tubes.

ISSUED SEPTEMBER 10, 1907.

865,355. Spraying device. I. Callman and J. Sabatelli, New York city.

865,396. Resilient wheel [with rubber cushioned tread]. H. Klingler, Sitterdorf, Switzerland.

865,411. Cushion tire wheel. C. A. Marien, St. Louis.

865,422. Horseshoe pad. J. B. McArdle, West Orange, N. J.

865,443. Tire shield. T. J. Sprinkle, Hillsboro, Ohio.

865,458. Mold for pneumatic tires. F. Veith, Veithwerk, Germany.

865,497. Pipe coupling and method of applying the same. D. M. Kenyon, assignor of one-half to J. B. Etherington, both of Bradford, Pa.

865,498. Implement for coupling pipe. *Same*.

865,507. Horseshoe [with pad]. M. A. Liebert, New York city.

865,615. Air brake hose coupling. E. W. Shaw, Weir, Kans.

865,682. Wheel [having rubber cushions within a steel tire]. H. Cramer, Sonora, Cal., assignor to Cramer Wheel Co., San Francisco.

865,698. Rubber vehicle tire. [Clincher tyke, with filling of cellular cellulose.] J. J. Hendler, Chicago, assignor to Tiger Tire Co., a corporation of New York.

865,699. Rubber wheel tire. *Same*.

865,743. Tire. [Tubular case, with plurality of separate yielding supports within.] W. T. Wood, Nashville, Tenn.

865,764. Eraser holder. M. F. Creahan, Philadelphia.

865,765. Wheel for road vehicles [having a resilient tire within the steel tread]. J. Davies, Birmingham, England.

Trade Marks.

The American Wringer Co., New York city. The following for marking the kinds of goods specified:

24,041. The word *Household*. For mangles.

24,043. The word *Eclipse*. For clothes wringers and mangles.

24,045. The word *Gem*. For bench wringers.

24,048. The word *Keystone*. For clothes wringers.

24,049. The words *No. C Climax* 340 in border. For clothes wringers.

24,050. The word *Colonial* in fancy border. For clothes wringers.

24,051. The words *No. Daisy* 120 in border. For clothes wringers.

24,052. The word *Mascotte*. For clothes wringers.

24,053. The words *No. C Ideal* 140 in border. For clothes wringers.

24,053. The word *Excelsior*. For clothes wringers.

24,057. The letter *C* and the figure 1 in diamond shaped enclosure. For clothes wringers.

24,153. The letter *B* and figures 11½ in diamond shaped enclosure. For clothes wringers.

29,396. Sawyer Belting Co., Cleveland, Ohio. The word *Fiexo-Tractine*. For dressings for canvas, leather and rubber belts.

ISSUED SEPTEMBER 17, 1907.

865,996. Mask. R. K. Catt, Abbottsford, Victoria.

866,006. Strip guide for elastic fabrics. A. H. DeVoe, Elizabeth, N. J., assignor to The Singer Mfg. Co.

866,009. Tire. [Pneumatic, with puncture resisting cushion within the tread.] W. I. Dreisbach, Williamsport, Pa.

866,134. Tire protector. W. H. Hoffmann, New York city.

866,127. Horseshoe pad. M. D. Glassbrooke, Angola, Ind.

866,297. Pneumatic tire. G. Noyes, Mandan, N. D.

866,438. Shaving brush. R. L. Davis, Star, N. C.

866,517. Manufacture of tubular or hollow bodies from plastic materials. L. H. Rentzsch, Meissen, Germany.

866,539. Repair device for pneumatic tires. P. C. Traver, assignor to M. P. McNamara, both of New York city.

866,579. Milking machine. L. Burrell, assignor to D. H. Burrell & Co., both of Little Falls, N. Y.

866,598. Rubber overshoe. J. D. Price, assignor of one-half to H. G. Powell, both of Cleveland, Ohio.

Trade Marks.

20,710. George A. Alden & Co., Boston. A wheel, over which are the words *One Wheel Brand*. For crude india-rubber and gutta-percha.

29,135. Revere Rubber Co., Boston. The word *Revere*. For belting, hose, and machinery packings composed of rubber.

29,254. Eberhard Faber, New York city. The word *Emerald*. For rubber erasers.

ISSUED SEPTEMBER 24, 1907.

866,758. Art or process of reclaiming scrap or waste vulcanized rubber. O. A. Wheeler, Austin, Ill., assignor to himself, F. W. Garlick, C. I. Bear, and W. A. Vail, Chicago.

866,759. Art or process of reclaiming scrap on waste vulcanized rubber. *Same*.

866,867. Cushion heel for boots and shoes. M. J. Kearney, Brockton, Mass.

866,874. Tire [comprising a circular woven wire element, a series of elastic blocks engaging in the meshes of the same, and a tread encircling the blocks]. J. E. MacKay, Los Angeles, Cal.

866,907. Heel retainer for overshoes. O. Berry, Galesburg, Ill.

866,927. Tire [comprising a coiled spring within an elastic casing]. R. A. Gehan, Buffalo, N. Y.

866,986. Wheel rim [for pneumatic tires]. J. K. Turton, New York city.

867,059. Hose and like coupling. S. B. Lear, San Francisco.

867,108. Hose terminal. J. R. Carmer, Washington, D. C.

Trade Marks.

24,056. The American Wringer Co., New York city. The word *Novelty*. For clothes wringers.

25,238. The Faultless Rubber Co., Akron, Ohio. Nipple with the word *Faultless* above it, and *Kantchoke* on its surface. For nursing bottle nipples.

29,141. F. F. Rick & Co., Buffalo, N. Y. The word *"Panok."* For pyrographic outfits.

29,251. Eberhard Faber, New York city. The word *Star*. For lead pencils and rubber erasers.

29,252. *Same*. The word *Rubby*. For rubber erasers.

29,325. The B. F. Goodrich Co., Akron, Ohio. The word *Monitor*. For machinery packing of rubber.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1906.

**Denotes Patents for American Inventions.*

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, AUGUST 21, 1907.]

9,586 (1906). Pneumatic tire with studded leather brand. B. Brooks, Birmingham.

*9,624 (1906). Hose pipe, specially wrapped. H. T. Bragg, Yonkers, New York.

9,635 (1906). Pneumatic tire with protective bead. M. H. de Hora, London.

9,646 (1906). Means for preventing the spreading of dust by road vehicles. A. B. Begg, Manchester.
9,710 (1906). Plastic composition of bitumen and rubber. C. A. C. De Caudemberg, Nice, France.
9,727 (1906). Pressure gage for pneumatic tires. H. W. Southall and F. V. Madeley, Birmingham.
9,739 (1906). Driving belt of metallic wires enclosed in rubber. F. Rowley, Whaley Bridge, Cheshire.
9,742 (1906). Heel plate. W. Clark, Edinburgh, Scotland.
9,751 (1906). Non skid cover for tires. C. H. Wilkinson, Huddersfield.
9,775 (1906). Horseshoe pads. R. Heath, Mirfield, Yorkshire.
9,776 (1906). Valve. H. H. Perry, Enfield, Middlesex.
9,808 (1906). Elastic substance prepared from the gums of the Saptaceæ. M. M. Dessau, Merton, Surrey.
9,809 (1906). Heel protectors. G. E. Vaughan, Redditch, Worcestershire.
9,835 (1906). Pneumatic tire air tubes. T. Y. Howcroft, Middlesborough-on-Tees.
*9,862 (1906). Golf club with elastic striking plate. C. E. R. Martin and C. M. Rivers, Newark, New Jersey.
*9,899 (1906). Hose coupling. E. J. W. De Forest and F. I. De Forest, Bradner, Ohio.
9,932 (1906). Elastic tire. T. B., A. G., and G. P. P. Marchant, London.
9,969 (1906). Solid tire. M. Breen, Enniscorthy, Wexford.
9,975 (1906). Pneumatic tire. T. Forde, Middleton, Ireland.
*10,076 (1906). Armored pneumatic tire. A. Dow, New York city.
10,102 (1906). Wire wound hose pipe. J. Farris, Kensington, Victoria.
[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, AUGUST 28, 1907.]
10,164 (1906). Belt fastening. E. F. Durand, Beckenham, Kent.
10,180 (1906). Spring wheel with rubber tire. R. M. A. Leps, Blaye, France.
*10,208 (1906). Composition for electric conductors. British Thomson-Houston Co., London. (General Electric Co., Schenectady, New York.)
10,223 (1906). Leather pneumatic tire covers. M. Videcoq, Paris, France.
10,264 (1906). Pipe joint for use on motor vehicles. F. T. Jackson, Coventry Plating and Presswork Co., Coventry.
10,280 (1906). Medical appliance for genito-urinary diseases. U. D. Ezell, Kimball, Texas.
10,306 (1906). Spring wheel with rim or wood or wood and rubber blocks. T. W. Baker, London.
10,403 (1906). Golf ball. E. Hartley, Fenton, and J. W. Hartley, Stone, both in Staffordshire.
10,475 (1906). Packing ring to protect calendering machines from oil from bearings. H. Bostell, Obercassel, Germany.
[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, SEPTEMBER 4, 1907.]
10,607 (1906). Spring wheel with elastic tires. E. L. A. Olivier, Paris, France.
10,611 (1906). Rubber running out gear for gun carriages. K. Haussner, Buenos Aires, Argentina.
10,628 (1906). Rivets for pneumatic tires studded tread bands. C. H. Wilkinson, Huddersfield.
10,636 (1906). Pneumatic tire cover. C. H. Wilkinson, Huddersfield.
*10,679 (1906). Swimming appliance with pneumatic pad. Z. T. Cox, Salt Lake City, Utah.
*10,683 (1906). Cover for scissors handles. C. W. Tindall, Lynnville, Iowa.
10,704 (1906). Rubber substitute for filling tires. L. Roland, Paris, France.
10,705 (1906). Tire composed of the preceding substance. L. Roland, Paris, France.
10,731 (1906). Overshoes for workmen. G. Kappler, Enge-Zürich, Switzerland.
*10,779 (1906). Pneumatic balls for games. A. T. Saunders, Akron, Ohio.
10,820 (1906). Vulcanizer for india-rubber. W. B. Arkless, Erdington, Staffordshire.
10,848 (1906). Stiffener for boot toecaps. J. Morath, Oeflingen, Baden, Germany.
10,854 (1906). Exercising apparatus. F. W. Croucher, London.
10,864 (1906). Spring wheel with pneumatic tube within the wooden tire. A. M. N. P. Laporte, St. Etienne, France.
10,870 (1906). Spring wheel with rubber cushions. J. Johnston, London, and H. C. Powel, Westminster.
10,899 (1906). Non skidding device for pneumatic tires. H. Edmunds, Westminster.
10,899 a. Fastening for tire non skids. H. Edmunds, Westminster.
10,935 (1906). Base for earthenware vessels. G. Parr, Leicester.
10,986 (1906). Molding tire covers. F. Veith, Veithwerk, Odenwald, Germany.
11,049 (1906). Pneumatic tire tread. H. J. and F. E. Jones, Leytenstone.
11,050 (1906). Elastic (not pneumatic) tire. H. J. and F. E. Jones, Leytenstone.
*11,105 (1906). Horseshoe pad. T. W. J. McGann, Washington city.
*11,106 (1906). Horseshoe pad. T. W. J. McGann, Washington city.
11,115 (1906). Sectional elastic tire. A. T. Collier, St. Albans, and Reilloc Tyre Co., London.
11,145 ((1906). Puncture closing composition for tires. P. Rensch, Consenheim, Germany.
11,165 (1906). Massage apparatus. A. N. Gore, East Finchley.
[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, SEPTEMBER 11, 1907.]
11,167 (1907). Cable for diving apparatus. J. Holman, London.
11,200 (1906). Belt fastener. C. H. Griffiths, Manchester.
11,225 (1906). Burglar alarm. P. Brauer, Wittenberge, Germany.
11,230 (1906). Valve with rubber parts. W. H. Bushell, London, and L. R. S. Tolman, Putney Hill.
11,252 (1906). Detachable rim for tires. J. F. Janes, London.
*11,273 (1906). Self-sealing pneumatic tire. A. Dow, New York city.
11,306 (1906). Pneumatic tire. H. J. Lawson, London.
*11,360 (1906). Joint-making packing. A. N. Hartmann, Paterson, New Jersey.
11,378 (1906). Hose coupling. J. O. Spong, London.
11,444 (1906). Pneumatic tire cover, of leather. E. L. Harris, London.
11,451 (1906). Bottle stopper washer. C. H. Gray, India Rubber, Gutta Percha and Telegraph Works Co., Limited, Silvertown, London.
11,537 (1906). Spring wheel with elastic tire. E. Peltier, Sceaux Robinson, France.
11,537 (1906). Tire composed of several pneumatic tubes. J. A. Mays, Hampstead.
*11,663 (1906). Removable inextensible rim flange. J. G. Lorrain, London. (R. P. Scott, Cadiz, Ohio.)
11,671 (1906). Anti skidding device. T. Browett, London.
11,687 (1906). Suspension wheel with rubber tread surface. E. Batault, Geneva, Switzerland.
11,720 (1906). Rim for solid rubber tires. M. H. Hora, London.
11,747 (1906). Elastic tire. A. T. Eyton, Holywell, Flintshire.
11,752 (1906). Pneumatic tire. R. Ruwet and E. Sabatier, Lacken, Belgium.
11,809 (1906). Elastic tire. F. G. Garrett, Southall, Middlesex.
*11,825 (1906). Spring wheel with rim connected to the felloes by elastic balls or plugs. P. A. Newton, London. (H. Bell, Stamford, Connecticut.)
[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, SEPTEMBER 18, 1907.]
11,923 (1906). Pneumatic tire. F. A. Ellis, Kennington, London.
11,924 (1906). Non skid studs for pneumatic tire. H. Bremer, Neheim-on-the-Ruhr, Germany.
*11,941 (1906). Vulcanizing rubber to leather. G. F. Butterfield, Boston, Massachusetts.
*11,960 (1906). Spring wheel with tread of rubbered fabric. I. Hodgson, Minneapolis, Minnesota.
12,029 (1906). Hose pipe. G. W. Parker, Hendham Vale Works, Manchester.
12,073 (1906). Golf ball. C. T. Kingzett, Kensington, and E. P. Kingzett, Caterham, Surrey.
12,198 (1906). Wheel rim with detachable flange. M. Korth, Cologne, Germany.
12,251 (1906). Metal protector for pneumatic tires. A. Lauener, Neuchatel, Switzerland.
12,272 (1906). Golf ball. P. A. Martin, Birmingham, and J. Stanley, Balsall Heath.
12,330 (1906). Tire tread composed of a series of rubber blocks. J. Slee, Newton-le-Willows, Lancashire.
12,389 (1906). Spring wheel with rubber tread. W. S. Boult, Wandsworth Common.
12,399 (1906). Game-lawn billiards and the like. T. L. Hague, Conway, North Wales.
*12,406 (1906). Storage for spare tires on motor vehicles. M. Ehret, Philadelphia, Pennsylvania.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION).

374,515 (Feb. 13, 1907). Garnier. Elastic tire.
374,468 (Jan. 30). W. H. Bronlow. Artificial rubber.
374,549 (Feb. 11). Goodacre, Robertson and Blackburn. Clincher head.
374,635 (Feb. 14). E. Vetter. Protective anti-skid.
374,679 (Feb. 15). Devarennes. Detachable rim.
374,769 (Feb. 16). C. V. Petit. Cushion wheel.
374,782 (Feb. 18). W. H. Bird. Elastic tire.
374,957 (Feb. 22). Société Indusarielle des Téléphones. Cushion tire.
375,085 (Feb. 26). E. A. Thiebault. Elastic tire.
375,118 (Feb. 27). Société dite Raffineries Reunies de Caoutchouc. Rubber extracting process.
375,208 (Jan. 7). F. A. Mongin. Anti-skid.
375,222 (Jan. 22). H. H. Boyie. Detachable rim.
375,234 (Feb. 9). H. Tanghe. Clincher tire.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Counseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

The Obituary Record.

HORACE H. TYER.

HORACE H. TYER, president of the Tyer Rubber Co. (Andover, Massachusetts), died at his summer home, Pigeon Cove, Mass., on Friday, October 4, at the age of 63. Mr. Tyer was born in New Brunswick, New Jersey, in 1844, at the time that his father, one of the pioneers in rubber, was engaged in business there with Horace H. Day. Indeed, the son was christened Horace H. Day Tyer, although he never used the full name.

About 1856 or 1857 Henry George Tyer, the father, began the manufacture of rubber goods, first in Ballardvale and then in Andover, Mass., making the latter town his home. Here his son Horace attended Phillips Academy, from which institution he was graduated and at once entered his father's factory to learn the business. On the death of his father, which occurred in 1880, he became treasurer of the company, and in 1882 was elected to the presidency of the company, which office he filled up to the time of his death. Mr. Tyer married Miss Katherine L. Buss, of Medford, Mass., who survives him, together with two daughters and a son. The latter, Henry G. Tyer, who was named after his grandfather, is at present connected with the factory end of the Tyer Rubber Co., and is learning the business.

HORACE H. TYER.

RUD. A. ZIETZ.

The funeral services were held at Christ Episcopal Church, Andover, the Rev. Frederick Palmer, rector, officiating, music being furnished by the vested choir of boys. The honorary pallbearers were the Hon. John N. Cole, speaker of the Massachusetts house of representatives; Nathaniel Stevens, Frederick H. Jones, Frank T. Carlton, the Rev. F. R. Shipman, and T. Dennie Thompson. The bearers were the superintendents and heads of departments of the Tyer Rubber Co., and were eight in number. The interment was in the family lot at Christ Church Cemetery, Andover.

Mr. Tyer was a director in the Andover National Bank, trustee of the Andover Savings Bank, trustee of the Punchard Free School, president of the Andover Press, and senior warden of Christ Episcopal Church.

Although he was not widely known in the rubber trade, those who did know him appreciated fully what a sterling character his was. It was difficult for him to mix with men because of a natural reserve that amounted to almost a shyness. At the same time he never shirked public duties, and in a quiet, unostentatious way proved himself a friend to scores and was ever a champion of the right in town and business affairs. Not possessed of the pioneer spirit of his father, the founder of the company, he very wisely became a conservative, but one who never strove to handicap or lessen the enterprise or energy of those with whom he was associated. To those who knew him best he showed a character simple, wholesome, and lovable, and his death at a comparatively early age is a calamity. The New England Rubber Club, of which he had long been a member, at a special meeting passed the following resolutions:

WHEREAS, The sad news of the sudden death of our friend and fellow member, HORACE H. TYER, has come as a great shock to the members of the New England Rubber Club—the son of one of the honored pioneers in his particular branch of the rubber industry, and himself intimately connected with our trade during his entire business career, and president of his own organization for the part quarter of a century, his loss will be most keenly felt by all who have had the privilege of personal or business associations with him.

Resolved, That this Club extend to his family its sincere and most heartfelt sympathy.

Resolved, That these resolutions be spread upon the records of the Club, and copies engrossed and sent to his family and to his business associates.

GEORGE P. WHITMORE, Chairman,
ELSTON E. WADBROOK,
ALEXANDER H. PAUL,
Committee on Resolutions.

Resolutions of regret were adopted also by the Tyer Rubber Co., the Rubber Sundries Manufacturers' Association, the Andover Club, and the directors of the Andover Press.

RUD A. ZIETZ.

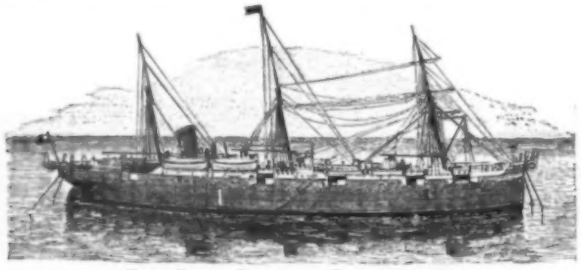
RUDOLPH AUGUST ZIETZ, long engaged prominently in the rubtrade at Pará, died suddenly in New York on September 11, in his fifty-ninth year. He had suffered an apoplectic stroke on the preceding day, and his last hours were spent in a hospital. Mr. Zietz was born January 22, 1849, in Pernambuco, Brazil, where his father, Rudolph Zietz, was engaged in business. His mother was Louise Ackerman. When the son was about five years old the family returned to Germany, to the free city of Lübeck, of which the father became a senator. Rudolph Zietz acquired his education there, and discharged his military obligation to his country. On reaching the age of 21, and having been supplied with some capital by his father, he went to the West Indies. His mercantile career began in Trinidad, leading him successively to China, Manila, and, finally, to Pará, where he became interested in the rubber trade.

It was in 1884 that Mr. Zietz became established at Pará, and for about twenty years he was an important factor in rubber, under the registered firm name of Rud. A. Zietz. His transactions are reported to have amounted in some years to £300,000 or £400,000. Incidentally, he served for a long term as the Danish consul at Pará. During much of this time Messrs. G. Amsinck & Co., of New York, were his bankers and his correspondents in the United States, and when he retired from business he took up his residence in New York, where he possessed a number of friends in the trade. Mr. Zietz was unmarried and without relations in America. His body was cremated and the ashes sent to Lübeck, to the grave of his mother. Mr. Zietz was held in the highest esteem by all with whom he came into contact, on account of his sterling qualities, both as a business man and as a friend.

NEW CABLE LINES FROM NEW YORK.

THE laying of the new direct cable between New York and Havana was completed on October 18. It was built for the Commercial Cable Co. of Cuba by the India Rubber, Gutta Percha and Telegraph Works Co., Limited, and laid by the latter company's cable steamer, the *Silvertown*. The steamer sailed from London on September 11 for Cuba, where laying the cable was begun. She started out from Havana on October 4 with 1,300 miles of cable coiled in three circular tanks. She made about 8 miles an hour, and by noon on the 5th 150 miles of cable had been laid. On the second day out the *Silvertown* laid 185 miles, on the third day 160, on the fourth the same amount, on the fifth 163, on the sixth 201 miles, and on October 11, when the *Silvertown* anchored out from New York long enough to buoy the cables, it had paid out 145 miles more, or a total of 1164 miles. The New York shore end, of heavier material, was laid by another boat, and on the date first named above the *Silvertown* completed her work by splicing the shore end to the main cable at the buoy. The new cable was, without ceremony, opened for public business on October 21.

In laying the new Havana cable the old barkentine rigged steamer *Silvertown*, which has been laying cables in all parts of the world since 1873, has established a record for the work which beats her own record, made when it laid the Pacific cable from Honolulu to San Francisco, and also beat the best achievements of the modern cable steamers. The *Silvertown* is 350 feet long, 55 feet broad, and 36 feet 6 inches deep, fitted with engines of



THE CABLE STEAMER "SILVERTOWN."
[Engaged recently in laying the New York-Havana cable.]

1800 HP. and steams at a speed of 10½ knots; her tonnage is rated at 4935. She has carried at one load 2600 knots [=about 2900 miles] of sea cable.

The Commercial Cable Co. of Cuba, incorporated in September, 1906, under the laws of New York, forms part of the system which includes the Commercial Cable Co., with five lines across the Atlantic, and the Commercial Pacific Cable Co., with a line across the Pacific, touching at Manila—altogether about 25,000 miles of submarine cables—in addition to the land lines of the Postal Telegraph Co. in the United States. For operating purposes the officials of the Mackay Company—the holding concern of all the corporations named above—look upon their land and submarine lines as forming one system. The new cable line to Cuba, which has cost between $1,400,000 and $1,500,000, has been paid for, it is understood, entirely out of earnings of the Mackay companies.

* * *

MENTION has not been made in these pages before of the cable laid recently between New York and Colon, via Guantanamo, Cuba, by the Central and South American Telegraph Co., of New York. This was opened for commercial business on August 1, the laying having been completed on that day by the *Colonia*, the cable steamer of the Telegraph Construction and Maintenance Co., Limited, of London. The operation of the new company has rendered communication with the southern countries more reliable, shortened the time, and lessened the cost. The length of the new cable is 2,263 knots. The Central and South American Telegraph Co., a New York enterprise, have cable lines down the Pacific coast from the isthmus of Panama to Valparaiso.

CRUDE RUBBER INTERESTS.

MR. IVINS'S STORY OF RUBBER.

THE story of "Rubber as a World Product," told entertainingly in the *American Monthly Review of Reviews* by Mr. William M. Ivins, the eminent New York lawyer, who was some time president of the General Rubber Co., and at times has sustained other important relations to the rubber trade, covers the history of rubber and its applications about as fully as could be expected within a single magazine article. Naturally an article of such interest has elicited some criticism, as for instance from *The Times of Ceylon*, where Mr. Ivins says: "Cultivated rubber as yet plays no real part in the world's markets, not more than 100 tons having yet come into consumption in any year." The point of *The Times's* criticism lies in the fact Ceylon and the Malay States alone had exported during the twelve months preceding the publication of Mr. Ivins's article about 670 tons of cultivated rubber, in addition to a considerable aggregate supplied by plantations elsewhere.

The newspapers on the Amazon are yet to be heard from in response to the statement by Mr. Ivins that "the mortality in the state of Amazonas, in Brazil, for example, corresponds with almost diabolical exactness to the number of tons of rubber produced, so that it is said that every ton of Brazilian rubber costs a human life." Seeing that the state of Amazonas has long contributed about 15,000 tons of rubber a year to the world's markets, it would be cause for wonder that the supply could be kept up if Mr. Ivins's information were correct, seeing that the whole population of the state is probably not more than 500,000, and all the inhabitants are not all rubber gatherers.

STATISTICS OF RUBBER PRODUCTION.

GAMBIA (BRITISH AFRICA).

	Pounds.		Pounds.
a 1883	52,033	1900	125,446
1884	257,285	1901	146,573
1891	246,690	1902	65,283
1893	45,298	1903	19,551
1897	423,103	*c* 1904	30,934
1898	481,020	1905	9,071
b 1899	128,912	1906	10,454

a—First exports recorded.
b—Unofficial figures.
c—Including rubber in transit from French possessions.

NEW CALEDONIA.

	Pounds.		Pounds.
1899	3,352	1903	24,789
1900	50,842	1904	37,617
1901	36,324	1905	49,823
1902	18,730	1906	80,984

Prior to 1899 exports of 66 pounds were taken account of by the customs department.

NOTES.

THE newspaper *A Provincia do Pará* reports that between the rivers Araguaya and Tapirapi, on the eastern borders of the state of Matto Grosso, Brazil, mangabeira rubber has been found in great quantities, but thus far it has been neglected for the more highly prized *Hevea* rubber.

Monthly shipments of rubber (wild and cultivated) are being made from the property of The West Coast Rubber Co. in Guatemala, to New York. The first shipment, 2,370 pounds, realized 76 cents a pound.

A RUBBER NOSE.—A student in the dental department of the University of Pennsylvania, after all the physicians there had failed to repair the damage to the nose of a miner who had been frost bitten, made impressions of the man's face and succeeded in making a flesh-colored nose of vulcanite rubber, which is held in place by heavy bowed glasses. A slight disfigurement of the upper lip is disguised by a false mustache.

TIRES AT THE AUTOMOBILE SHOW.

THE eighth annual automobile show of the Automobile Club of America, held in New York, October 24-31, at the Grand Central Palace, was of more than usual interest to the rubber trade. Not only is it on a larger scale than previous automobile shows in New York, but many of the tire concerns had new features to exhibit.

The tire exhibits showed a continued departure from the era of "freaks" in tire construction, toward the smooth, round, wrapped-tread clincher type. Antiskid features were not numerous and were simpler, the popular type having a few rows of rivets embedded in the tread, without leather. There were two or three new removable rims, but several of last year's types have been withdrawn from the market. Detachable flanges were fewer than last year, with no new ones. The turnbuckle type seems the most popular. There were several new tires, but several old companies did not appear. This cushion type of tire has about disappeared from the market. The Bailey tread has grown in popularity.

Morgan & Wright exhibited the Dunlop, standard clincher, and quick detachable clincher mounted on the new Midgley rim. A conspicuous feature of the exhibit was a 40 x 4 inch tire with Bailey tread.

The Goodyear Tire and Rubber Co. showed their standard line of tires—detachable and clincher—and their "Universal" rim.

The B. F. Goodrich Co. exhibited their regular types of smooth and narrow flat tread, and their detachable rim.

The Fisk Rubber Co. exhibited their regular line of tires, with flat, round, and Bailey treads. They have also brought out a removable rim, with a felloe band, raised on one side, upon which an inflated and mounted tire can be slipped and held on by wedge-headed through bolts, on the general Vinet principle.

The Michelin Tire Co., now American as well as French manufacturers, showed their standard tires, and the beautiful *"Semelle Michelin"* (Michelin tread). They also showed their well known removable rim.

The Pneu l' Electric Co. showed the tires made by the Société Industrielle des Telephones, and the Samson, which they are now licensed to use. They also had an exhibit of insulated wire.

The Automobile Utilities Co. showed their Shaw self sealing inner tube, the tube being double, with a layer of thick, gummy material within.

The Crescent Parts Co. showed their removable rim, known formerly as the Harburg rim.

The Ajax-Grieb Rubber Co. showed their regular tires.

The Republic Rubber Co. showed their round and flat tread tires, the flat tread having two very deep grooves. They also showed twin solid truck tires, and featured their new detachable flange rim.

Herz & Co. showed the Miskolczy (Vienna) flat tread and antiskid tire, with embedded rivets and a thick rubber cushion between the fabric and the tread.

The Empire Automobile Tire Co. showed their smooth and thickened tread pneumatics, and their buttoned tire case.

Charles J. Downing showed the Genesee clincher tires.

The Motz Clincher Tire and Rubber Co. showed their regular solid tires and their dual-tread solid cushion tire.

The Leather Tire Goods Co. showed the Woodworth tread, the Kantskid climber, and their leather covered inner tube.

The G. & J. Tire Co. showed, besides their standard type, with thickened, flat tread, a smooth, round, wrapped tread type.

The Hartford Rubber Works Co. had their regular line of clincher and Dunlop tires, and also a combination type, being the wired-on tire with a clincher bead added. They also furnish the Midgley tread already ground or flat.

The Diamond Rubber Co. showed their standard pneumatic and wire-mesh-base solid tires, and their improved antiskid, with narrow, flat, raised tread, the rivets imbedded in the tread, without any leather. They showed smooth round and flat treads, their Marsh rim, and their new demountable rim, used in the Vanderbilt race, but not before exhibited at an automobile show. The rim is slipped over the felloe band and held by clip-headed through bolts.

The National Sales Corporation showed Pirelli tires.

The Mitchell Punctureless Tire Co. showed one of their tires running against a roller, sections of the rim being cut out to show the action of the tire.

The Pennsylvania Rubber Co. showed their regular line of round, flat, smooth and corrugated treads and antiskid tread.

The Firestone Tire and Rubber Co. displayed their pneumatics prominently, as well as great and small solid tires, and a large fire hosewagon wheel with twin solid tire. They also showed their removal rim, and their dual-tread tire.

The Swinehart Clincher Tire and Rubber Co. showed their standard solid cushion tire, and their twin truck tire with central chain to prevent slipping.

The Continental Caoutchouc Co. showed their regular tires, made to fit American rims. They also showed their adaptation of the Vinet removable rim, the felloe band being adapted to hold any standard rim. It can be fitted on any wheel.

The Trenton Rubber Manufacturing Co. showed their Home detachable tire, in round, flat and thickened tread, with red and gray tubes, floor mats, rubber matting and thermoid wire-meshed brake lining, packings and rubber matting.

The Joseph Stokes Rubber Co. had a fine display of hard rubber goods, including various hard rubber automobile accessories, as steering wheels, lever grips, tank caps, faucets, battery jars and covers, besides hard rubber surgical goods, shaving brushes, water-meter paddle and turbine wheels, dye-spinning tanks, new and old types of telephone receivers and mouthpieces, and many other hard rubber specialties, the whole making a beautiful display, which attracted much attention.

The Long & Mann Co. showed their tire tools and their new detachable rim. Half of this rim is fast, while the other half is held on by through bolts, and also by offsets underneath, which fit into tangential slots in the felloe band.

Arthur H. Middleton showed his clincher block solid tire, the rubber sections being capped with iron.

The Morris Auto Co. showed their standard tire protector, which is a thick rubber and fabric casing, with inextensible edges, and holds fast so long as the tire is inflated.

The Newmastic Tire Co., the Elastic Tire Filling Co., William Wooster and Smalley Daniels showed their elastic tire fillers. The Newmastic Tire Co. had a "Newmastic" and a pneumatic tire mounted alongside, so that their comparative resilience might be tested with a hinged lever.

The Gilbert Manufacturing Co., the Allen Auto Specialty Co., the Nathan Novelty Manufacturing Co. and Post and Lester showed their tire cases. The buttoned type of tire case was much in evidence. The Traver Blowout Patch Co. also showed their patches.

In addition to the displays mentioned in the preceding lines, several of the rubber manufacturing companies exhibited automobile clothing, rubber mats and matting, and hard rubber goods for automobiling uses.

COMING EVENTS.

THE annual automobile show under the direction of the Association of Licensed Automobile Manufacturers will be held at the Madison Square Garden, in New York, November 2-9. The leading tire companies will be represented at this show practically by the same exhibits that were seen at the Grand Central Palace.

The Chicago automobile show will open on November 30 and continue until December 7.

SEA ISLAND COTTON PRICES.

AT the meeting of the Sea Island Cotton Association, at White Sulphur Springs, Florida, on September 12, President Harvie Jordan, in his annual address stated that in 1893 the Sea Island crop of 75,000 bales, selling at about 15 cents a pound, yielded the growers, say, $5,000,000, while last year's crop of only 60,000 bales, selling at higher prices, brought over $9,000,000. He said: "To-day every county in the [Sea Island cotton] belt is organized, and you are getting 35 cents for your better grades. This is the result of coöperation." He advised his hearers to study the manufactured products and trade conditions—to "put in more brain work along this line." The association's committee on prices reported in favor of the following minimum prices for Sea Island grades, and the report was adopted: Fancy grades, 35 cents; No. 1, 33 cents; No. 2, 32 cents; No. 3, 31 cents; No. 4, 30 cents. No prices were fixed for lower grades. *The Cotton Journal* says that the Sea Island cotton growers are well supplied with good warehouses which have been constructed in the various counties during the past two years by members of the above named association. The growers are beginning to pool their cotton for sale in large blocks and abandoning the old fashioned method of retailing a bale at a time on the streets.

An important firm of cotton factors in the South making a specialty of Sea Island grades, in response to the request for an opinion on the price situation, write:

TO THE EDITOR OF THE INDIA RUBBER WORLD: It is difficult to say anything regarding the prospects of the producers of cotton being able to control prices this season. If the crop is materially greater than last year's, and we believe it is, we do not see how in view of the general tightness of money it will be possible to hold it. The only man who can really hold cotton is the farmer, and his ability to do so depends on whether he owes his local storekeeper or not. In ordinary years a country merchant can probably get an extension of time from his wholesale correspondent in the city, but we do not believe he will be able to obtain that this year and so he may bring more pressure than usual to bear upon the farmer to make him sell. In addition to this, present prices are undoubtedly profitable to the farmer.

It looks as if there was going to be a good deal of low grade cotton in this crop. This comes into competition with the best growth of Egyptian, and as these are likely to be in full supply this year it appears to us that low grade Sea Island will have to approximate these Egyption qualities in price. This may be brought about the more speedily because we do not think that factors are willing to tie up their money in advance on Sea Island cotton on the present basis of values. Yours truly,

Savannah, Georgia, October 4, 1907.

RUBBER FROM DISPUTED TERRITORY.

THE Peruvian Amazon Rubber Co., Limited, was registered in London on September 26, with £1,000,000 [=$4,866,500] capital, of which £300,000 is in preference shares, to acquire certain rubber properties in the upper Amazon region, beyond Iquitos, owned by Julio C. Arana y Hermanos, and called "Colonia Indiana," "El Encanto Angelia Pevas," and "Nanay." There is no initial public issue of shares. The list of signatures is headed by Julio C. Arana, whose address is given as Warriston, North-end road, Hampstead, N. W., London. The rubber properties above referred to lie, at least in part, within the region embraced by the concession granted by the government of Colombia to Caño, Cuello & Co., of Bogotá, which concession is the basis of an American company recently formed to exploit rubber. This concession has been the subject of not a little correspondence between representatives of the governments of Peru and Colombia, between which countries a dispute exists over the ownership of part of the territory. Some of this correspondence was reprinted in THE INDIA RUBBER WORLD October 1, 1907 (page 24), after its appearance in leading newspapers in New York, London and elsewhere.

Messrs. Arana Brothers have been established for something more than two years in shipping rubber from the region in dispute, via Iquitos to Liverpool and New York, claiming to be within Peruvian territory, and paying export duties to Peru at Iquitos port. THE INDIA RUBBER WORLD is in possession of the following figures regarding the Arana shipments from Iquitos:

DATE.	Liverpool.	New York.
December 29, 1904.....*kilos*	91,433	5,265
January 10, 1905.....	1,440	...
April 14, 1905.....	73,253	4,515
May 10, 1905.....	45,480	...
June 14, 1905.....	5,767	...
July 13, 1905.....	75,835	...
August 25, 1905.....	63,833	...
October 15, 1905.....	90,192	...
Total, first year.....	447,232	9,780
December 30, 1905.....	76,698	27,607
January 24, 1906.....	25,245	...
February 23, 1906.....	13,270	20,000
May 23, 1906.....	77,609	...
September 23, 1906.....	84,493	...
October 24, 1906.....	23,053	...
November 25, 1906.....	21,271	...
Total, second year.....	321,639	47,607
Total, two years.....	768,871	57,397

Grand total, Liverpool and New York, 826,258 kilos.

It is stated that, in addition to the above figures, a small shipment remained to complete the output for 1906, owing to obstructions to navigation toward the end of the latter year.

RUBBER PROFITS ON THE KASAI.

THE trading profits for 1906 of the Compagnie des Kasaï—the rubber monopoly in the Kasai region of the Congo State—were larger than in any former year, amounting to 11,268,029.65 francs [=$2,174,929.72]. The net profit, after providing for the cost of planting rubber as required by law, interest on bonds, etc., was 8,033,657.22 francs [=$1,550,495.85]. After paying 6 per cent. on the capital shares, directors' fees, agents' commissions, and adding to the reserves, there remained for the holders of the beneficiary shares (common stock) 7,035,000 francs [=$1,357,755], or 1750 francs per share.

The capital of the company is in 4020 shares of 250 francs each, totaling 1,005,000 francs [=$193,965], and an equal number of beneficiary shares "without designation of value." It is the latter which participate in the large profits above referred to. One half the beneficiary shares are held by the 14 companies participating in the Kasaï syndicate, one half by the Congo Free State. If the beneficiary shares be given the same par value as the capital stock (250 francs), as is the custom in issuing "common stock" in America, the Kasai dividend of 1750 francs per share would work out at 700 per cent. for the year. Of the dividend, 1000 francs per share were paid in April 15 last and 750 francs on October 15. A recent Brussels bourse quotation for these shares "without designation of value" was 16,000 francs [=$308.80]; the highest quotation for the year (on January 28), 20,575 francs.

The net profits of the Kasaï syndicate since the beginning, derived chiefly from its rubber trading, have been:

In 1902.....	1,210,706.23 francs	[=$233,666.26]
In 1903.....	3,497,393.01 francs	[= 677,996.85]
In 1904.....	5,334,797.06 francs	[=1,029,615.82]
In 1905.....	7,543,084.98 francs	[=1,455,885.40]
In 1906.....	8,033,657.22 francs	[=1,550,495.85]

FOR rubber planters: Mr. Pearson's book, "What I Saw in the Tropics."

THE MEXICAN RUBBER PLANTERS.

IN response to a circular of invitation mentioned in the last issue of this paper (page 18) a meeting of rubber planters was held on October 9-10 in the city of Mexico in the club room of the *Mexican Herald* building. The first session was opened with an address of welcome by Paul Hudson, general manager of the *Herald* and a member of the invitation committee, followed by an address from Olegario Molina, minister of fomento of the republic.

William Vernon Backus was elected chairman. Two days were devoted to addresses and papers relating to rubber culture and discussions thereon,, except for the time during the second day taken to form a permanent organization, under the name Rubber Planters' Association of Mexico. The first regular meeting is to be held in the city of Mexico on February 12, 1908. On the evening of the first day of the planters' conference they attended a banquet, at a leading Mexican restaurant, at which the guest of honor was Andres Aldasoro, under minister of fomento, who, speaking in behalf of the government, said that all the necessary guarantees and every possible aid would be extended in the development of rubber culture in Mexico.

Dr. Olsson-Seffer, in a lengthy paper on "The Present Condition of Rubber Culture," said that there were in Mexico 118 plantations, embracing approximately 95,000 acres, devoted wholly or in part to rubber culture, and representing an investment of $60,000,000 Mexican, or about $30,000,000 gold.

James C. Harvey spoke on "Cacoa as an Adjunct to Rubber Culture," and H. Wegge on "Manuring the Rubber Tree." Ignacio Carranza opened a discussion on "The Rubber Planter and the Labor Supply." He favored the importation of laborers from southern Europe, and the general sentiment of those who spoke was adverse both to the Japanese and the American negro for plantation work in Mexico.

The suggestion was made by J. P. Taylor that the government should establish regulations for the control of trading in rubber, for the reason that the Indians, who now are "stealing about three-fourths of the wild rubber of Mexico," may be expected sooner or later to begin stealing rubber from cultivated trees.

The selection of officers of the Rubber Planters' Association of Mexico resulted as follows:

President—O. H. HARRISON, La Zacualpa Rubber Plantation Co., San Francisco.

First Vice President—JAMES C. HARVEY, Mexican Mutual Planters' Co., Sanborn, Mexico.

Second Vice President—PEHR OLSSON-SEFFER.

Secretary—[To be named by the directors.]

Treasurer—WILLIAM VERNON BACKUS, interested in a number of planting companies, Mexico City.

Directors—W. C. Gruels, O. V. Petterson, A. B. Coates, L. A. Ostien, Ignacio Carranza.

The names of those taking part in the planters' convention are reported as follows by the *Mexican Herald*, to which journal credit is also due for most of the details in this report. It is understood that the test is not a complete one:

DELEGATES FROM STATES.

Carlos Garza, from Tamaulipas.
Manuel Casares Escudero, from Yucatan.
Deputy Ignacio Muñoz, from Veracruz.
Luis Oettinger, from Guerrero.
Deputy Domingo Leon, from Tabasco.

REPRESENTING PLANTING COMPANIES.

St. Paul Tropical Development Co. (St. Paul).—Professor L. A. Ostien.
Tabasco Plantation Co. (Minneapolis).—F. W. Moore and George E. Davis.
Mexican Imperial Plantation Co.—William Vernon Backus.
Mexican Mutual Planters' Co. (Chicago).—James C. Harvey.
The Mexican Rubber Co., Limited (London, England).—H. E. Levesley.
Nebraska Plantation Co.—Professor V. O. Petterson.
The Obispo Rubber Plantation Co. (New York).—Maxwell Riddle.
Rock Island Tropical Plantation Co.—Prof. V. O. Petterson.
Trinidad Rubber Co.—"Buenaventura" plantation (Los Angeles).—Clarence Harvey.
Chiapas Land Co.—R. Olsson-Seffer.
The Chilean Exploration and Development Syndicate, Limited (London, England).—P. O. Bremer.
El Palmar Plantation Co.—C. Miner and A. Reynaud.
Continental Commercial Co. (St. Louis).—H. E. Levesley.
Hacienda Providencia—John Shelly.
Mexican Gulf Agricultural Co. (Kansas City).—C. H. Precht.

OTHERS PRESENT.

Dr. Pehr Olsson-Seffer, representing several planting companies; James Gunder, of Vera Cruz; Ralph Root, of New York; K. C. Lock, W. D. Shaw, W. S. Windock, Dr. J. H. T. Stempel, and W. C. Cressey.

* * *

THE *Mexican Herald* quotes Montgomery Tarr, described as being exceptionally well informed on the subject, as predicting the exportation during the current fiscal year (beginning July 1) of 100 tons more rubber from Mexico than during the preceding year, owing to the development of the rubber plantations.

THE "MANICOBA" RUBBERS.

EARLY in the past month Mr. Reginald W. Wickham, of London, was in New York, *en route* from a visit to Peru and Bolivia, which took him 2,500 miles up the Amazon and its tributaries, the Jurná and Gregoria, investigating rubber interests. He reports finding some magnificent growths of *Hevea* rubber—up to 14 feet 3 inches in circumference.

Mr. Wickham at one time visited the "maniçoba" rubber regions in the Brazilian state of Bahia, a description of which by Mr. Ashmore Russan was reviewed in THE INDIA RUBBER WORLD for October 1 (page 9). Mr. Wickham states that some rubber properties in Bahia have been marketed recently to a syndicate in London.

Another recent visitor to New York was Mr. William B. Dulley, manager of The Dumont Coffee Estates, Ribeirão, São Paulo, Brazil, after a visit to some Mexican rubber plantations. The Dumont estates are owned in London, Mr. H. K. Rutherford being interested, and it is partly due to the latter's suggestion that rubber planting has been taken on. About 400 acres have been planted within a year to *Manihot Glaziovii*, the rubber tree of Ceará being preferred by Mr. Dulley to the Jequie or "maniçoba" of Bahia after he had visited the region where the latter is native. It was Mr. Dulley who sent to Kew the first material for the study of the Bahia or Jequie "maniçoba," now recognized as different from the *Manihot Glaziovii* or Ceará "maniçoba."

Increased amounts of rubber from Bahia are arriving at New York, the increase being namely in "maniçoba." Only a small amount of this rubber is the product of plantations, though Jequie rubber is generally spoken of here and in Europe as "plantation" rubber.

The Brazilian Rubber Plantation and Development Co., in which New York capital is interested, have a plantation of *Manihot Glaziovii* in Ceará, regarding which they inform THE INDIA RUBBER WORLD: "We receive maniçoba of this latter description from our own plantation from time to time, the quality of which we expect will be very materially increased in a short while, as we now have over 600,000 trees planted and employ over 200 hands on our property, the development of which is progressing very rapidly and to our entire satisfaction."

THE largest automobile storage warehouse in the country is a garage on Broadway, New York, in which there were housed recently, for 236 regular customers, cars of the estimated value of nearly $1,500,000, figured at less than first cost. The house has 150 employés.

FAME FOR A RUBBER WORKER.—An Akron newspaper says: "John Cary, foreman in a department of The B. F. Goodrich Co., has achieved a large measure of fame in this city recently by the publication of a song which he composed entitled 'Where the Old Cuyahoga Winds Around the Bend.'"

NEW HODGMAN SPECIALTIES.

IT is not always that illustrations of rubber surface clothing give a fair idea of either the value or finish of the garments. The picture of the V neck auto shirt shown here, however, is fairly descriptive. The coat, which is an original design just brought out by the Hodgman Rubber Co. (New York), and for which a patent has been applied, is of the shirt type without buttons or fastening of any sort, the neck and collar being made of a series of gussets filled with thin elastic rubber, so that the collar may easily be stretched, allowing the garment to be put on over the head. The sleeves also have the same type of gussets. The garment is made of very light weight fabrics and in two colors—black and a dark rich red—the rubber surface being upon the outside. The red coat, by the way, has the collar and cuffs finished in black rubber, the whole effect being very elegant. The coat is windproof and rainproof, and is so light in weight and the finish of the coat is so good, that any objection to a rubber surface garment that the most finical may have disappears at sight. These garments in black retail at $10 and in red at $12.50.

HODGMAN "V" NECK AUTO SHIRT.

The Hodgman specialties in waterproof clothing include a line of silk goods both for automobile and street wear. No doubt many have seen these goods without having entered the Hodgman stores, as they appear in the warerooms of the great cloak houses and are often described as "imported garments." In making up these garments, the patterns, which are exclusively Hodgman designs, are made to closely follow the cloak fashions of the best houses here and abroad. The silk goods are what are known as "confined" fabrics; that is, the Hodgman company have them exclusively, and the manager of their silk coat department revises and changes these designs every month, alternating and combining checks, stripes, changeable silks, and using whatever the taste of the best dressed may demand at that particular time. All of the garments are finished with a delicate coating of transparent Pará rubber on the inside of the garment, and all seams are cemented. An idea of the type of garments made may be had when one remembers that retail prices range from $15 to $60 a garment.

WANTS AND INQUIRIES.

[443] WANTED names of manufacturers of wooden hose reels for garden hose.

[444] From a rubber manufacturer in New Jersey comes an inquiry regarding where to buy olear gum.

[445] "Where are regular hose armoring machines built?"

[446] Wanted information about gum tragasol—if it has another name, and where it can be procured.

THE NEW "SKIPPER" OVERSHOE.

LOW cut rubber shoes, in fact very low cut, so much so that they are practically sole and heel protectors, are exactly what a great many people want. For city wear, particularly, if the sole and heel are protected, that is all that is necessary. An overshoe, however, that does not come over the upper of the leather shoe is difficult to keep on, and there have been many types all shaped toward this end. Without having worn it—as it is only just on the market—one patented lately by Frederic C. Hood, of the Hood Rubber Co. (Boston), looks very much as if it had solved the problem. As will be seen from the illustration, a reinforcing strip of frictioned fabric with its upper edge folded upon itself is vulcanized to the upper edge of the shoe, on the inside, forming a bead under which the sole of the leather shoe naturally and easily slips. The bead is entirely out of sight and its only office is to hold the shoe on in whatever position the foot may be. The shoe, by the way, is called the "Skipper," and is manufactured under United States patent No. 867,882, issued October 8, 1907. It is manufactured by the Hood Rubber Co.

"SKIPPER" OVERSHOE.

CANADIAN TRADE NEWS NOTES.

THE business formerly known as the Vancouver branch of the Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, has recently been incorporated under the name of the Vancouver Rubber Co., Limited. A. G. McKenney is general manager and the location is No. 160 Hastings street, West, Vancouver, British Columbia. The company are selling agents for the Gutta Percha company.

The Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, as an evidence of interest in the health of their employés, have arranged to supply the latter with mineral water from a series of sanitary coolers throughout the works.

The rubber footwear factories in Canada have been kept busy all season and still have large orders on hand. The unusually fine fall weather was not conducive to sales by retailers, though the general outlook is promising for a good winter trade. The sale of heavy goods is expected to be large in the regions lately opened up in the west and north.

The Aluminum Flake Co. (Akron, Ohio) announce that Mr. A. J. MacLaren will handle aluminum flake for the rubber trade throughout Canada.

The largest asbestos mine in Canada, it is said, is owned by H. W. Johns-Manville Co., of New York.

INSULATED WIRE IN CANADA.

THE display made by The Wire and Cable Co. of Montreal, at the recent first annual Electrical Show in that city, attracted much attention. Their booth contained exhibits of insulated wire of almost every description, all attractively arranged. Rubber insulated wires fill an important place among their products, and a display of crude rubber was an interesting feature in their space.

CANADIAN MANUFACTURERS IN SESSION.

AT the thirty-sixth annual convention of the Canadian Manufacturers' Association, held recently at Toronto, the rubber industry was well represented. At the election of officers, D. Lorne McGibbon, president of the Canadian Consolidated Rubber Co., Limited, was placed on the list of vice-presidents. The executive council of the association includes John J. McGill, of the Durham Rubber Co., Limited, and Robert J. Younge, of the Canadian Rubber Co. of Montreal, Limited.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

THE condition of the local rubber goods trade is thus summed up by L. L. Torrey, president of the Pennsylvania Rubber Co. of California: "We hear a good deal about politics, the tightness of the money market, dull times, etc., and I guess there are more people standing around talking politics now than there are attending to business. Buyers won't do anything until after the election, and if the election goes the wrong way they won't then. They don't have to spend their money in San Francisco and if the labor unions get in control again things are going to drag here for a while. The labor unions believe that they can drive the business men to keep up big business enterprises and spend their money as the unions would like, but they cannot do it. They are having a dose now of what their attempts lead to—stagnation on account of the strikes, and little work for workmen. Conditions are ripe in this city for a remarkably good business and it is to be hoped that the power of the unions will not be exerted to hold back about two-thirds of the spending money during the next two years."

The municipal election will take place in November. The temporary mayor, Taylor, has gained the confidence of eastern people who have business interests here, and as this city now depends on eastern capital and credit for its rapid progress, since its destruction by fire, the merchants are working hard to secure his election.

The Pennsylvania Rubber Co. of California has been incorporated, with L. L. Torrey president and manager and L. D. Torrey, secretary and treasurer. It has been formed for the purpose of adequately handling the market products of the manufacturers in Pennsylvania of the same name. Mr. Torrey reports that they have been meeting with a very favorable business. Mr. Grant, with the firm, is now on a trip to Seattle.

R. H. Pease, of the Goodyear Rubber Co., states that the rubber houses have been making good shipments all over the coast of rubber boots and shoes and are now waiting the rains for their customers to use their goods up.

The new building of the Pacific Coast Rubber Co. is practically completed, and as soon as the finishing work is completed —say about the first of December—will be occupied. Mr. Bushnell reports that business has been very good during the entire summer.

W. T. Barton, president of Barton, Squires, Byrne Co., is now in the eastern States visiting the various factories and buying equipment for the plant. He has purchased some new flax machinery for braiding flax, which will be the first of this kind of machinery to come to the coast. This company has taken the agency for the Federal Waterproofing Co., of St. Joseph, Mo.

Ed. Rumsey, vice president of the J. W. Byrnes Belting and Hose Co., of St. Louis, is visiting the trade in San Francisco.

Mr. Blanchard, manager of the Mechanical Rubber Co., of Chicago, has been in this city placing orders with the trade.

The Bowers Rubber Works have moved to their permanent building on Sacramento street, near the water front. They report a remarkably good business throughout the coast territory.

Mr. Duffington, representing the Trenton Rubber Manufacturing Co., is in town and making the rounds of his friends in the trade.

Hughson & Merton, at No. 436 Market street, have given up the agency and account of the International Rubber Co., although, since the agency does not expire until January 1, they will continue to look after the lines until the company sends out a new agent. Hughson & Merton have taken on the agency for the Ajax-Grieb Rubber Co.'s tires.

The Gorham Rubber Co. is preparing to move over the main offices to the new building in San Francisco, but will continue the Oakland store hereafter as a branch.

Mr. Gurr, representing the W. D. Allen Manufacturing Co., of Chicago, has notified the local houses that he will be in this city within a short time.

The Dimond Rubber Co. is looking about for a new and permanent location in San Francisco, with a view to bringing the main plant over from Oakland, and having the principal headquarters here in San Francisco, as previous to the fire.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

ISAAC FRIEDMAN, general manager of the Stein Double Cushion Tire Co., of this city, was stricken with apoplexy aboard a train between Akron and Cleveland, on October 17, and died in a hospital in the latter city soon afterward. Mr. Friedman spent the day at the offices in Akron, as was his custom, and then started for his home in Cleveland to spend the night. He had just returned from a trip to Europe for his health, and upon his return was supposed to be in the best of health. Mr. Friedman was wealthy and a well known figure in rubber circles.

At the annual meeting of The Diamond Rubber Co. all of the directors and officers of the concern were reelected. The officers are: F. A. Hardy, president; A. H. Marks, vice-president and superintendent; W. B. Miller, secretary; A. H. Noah, treasurer. The other directors are: R. G. Lake, of Chicago, and O. C. Barber and E. K. Hardy, of Akron.

Fred Work, brother of B. G. Work, president of The B. F. Goodrich Co., with Chester Maxson, has returned home after a trip across the continent and back in a 40 HP. Oldsmobile touring car; covering about 11,000 miles. The car was equipped with Goodrich tires, which are said to have stood the rough usage in splendid style. The Oldsmobile company have purchased the car and started upon a 1,000 mile non-stop endurance test, with the idea of sending it then to the New York automobile shows.

By the first of the year The B. F. Goodrich Co. will have increased the number of their employés to about 500 more than were on the payroll a year ago. As soon as the new concrete six-story factory building is completed, at least 300 more men will be needed. The employment department is finding some difficulty in securing enough men and girls.

Employment is to be furnished for 200 more men by December 1 at The Diamond Rubber Co.'s works. The mammoth factory building now under construction is practically finished. As soon as they can be secured, 150 tiremakers will be added to the present force at the Diamond. Four hundred men have been added to the number of employés in the past year.

All of the other rubber manufacturing companies in Akron are experiencing similar prosperity, and it is expected that there will be a 15 per cent. increase in the population of this city this year solely through the growing demand for employés by these concerns.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of india-rubber and gutta-percha from the United States for the month of August, 1907, and for the first eight months of five calendar years:

MONTHS.	Belting Packing and Hose.	Boots and Shoes.	All Other Rubber.	TOTAL.
August, 1907	$124,750	$214,365	$349,907	$689,022
January to July	795,965	694,075	2,352,870	3,842,910
Total	$920,715	$908,440	$2,702,777	$4,531,932
Total, 1906	800,245	788,966	2,094,098	3,683,309
Total, 1905	755,988	767,775	1,918,481	3,442,244
Total, 1904	570,972	651,392	1,600,574	2,822,938
Total, 1903	568,797	507,897	1,655,396	2,732,090

News of the American Rubber Trade.

UNITED STATES RUBBER CO.—DIVIDENDS.

THE board of directors of the United States Rubber Co., on October 3, declared the regular quarterly dividend of 2 per cent. on the first preferred capital stock, and the regular quarterly dividend of 1½ per cent. on the second preferred stock, from the net earnings for the fiscal year beginning April 1, 1907, payable on October 31. In connection with the announcement of these dividends it was stated at the offices of the company that the net earnings for the first six months of the business year, with September partially estimated, were $2,175,000, including dividends amounting to $277,812.50 received upon the stock of the Rubber Goods Manufacturing Co. in the United States company's treasury.

DEVELOPMENT AT BRISTOL.

THE large new building for the insulated wire department of the National India Rubber Co. (Bristol, Rhode Island), referred to at some length in THE INDIA RUBBER WORLD May 1, 1907 (page 256), is practically completed and the installation of machinery is in progress, with the idea of having it in working order by New Year. The rubber clothing department, in operation since the company was started, in 1865, has been discontinued, in order to make room for the greater development of the insulated wire branch. No mackintoshes have been made by the company for four or five years past.

ENLARGING A RUBBER RECLAIMING PLANT.

THE Boston Woven Hose and Rubber Co. have found it necessary to add to their facilities at Plymouth, Massachusetts, for producing reclaimed rubber. Work has been started on a three-story brick building, 109 x 109 feet, and an engine room and boiler house, all directly connected with the present buildings. It is understood that the contractor is to have the work completed by the middle of January next. Several parcels of land have been acquired for building and storage space, and for a number of houses to be occupied by the company's employés.

FORCED TO BUILD BY GROWING BUSINESS.

THE Bristol Co. (Waterbury, Connecticut) are about to erect another addition to their plant 53 x 170 feet, three stories high. This additional space is made necessary by the increased demand for Bristol's recording thermometers and Bristol's patent steel belt lacing. With the amount of business already in sight the company feel that it will not be long before even this addition will be crowded.

SPOT-PROOFING OF FABRICS.

PLYMOUTH Rubber Co. (Stoughton, Massachusetts), proofers for the trade, announce that they have installed and are operating successfully a new method for spot-proofing silks, satins, and the like. They are in a position, therefore, to supply the cutting trade with silks that are rubberized as well as spot-proofed, thus contributing to the material excellent waterproof qualities. The new treatment may be applied to fabrics before or after they have been rubber-coated. Plymouth Rubber Co. are now headquarters for work in this new line.

AN ALLING STORE IN NEW JERSEY.

THE chain of Alling rubber stores, starting in Connecticut, has now extended to New Jersey, The Alling Rubber Co., of Paterson, having been incorporated, with $10,000 capital, to deal in rubber goods at wholesale and retail, and also bicycles and sundries and sporting goods. Clarence E. Alling, who is connected with the Alling syndicate's store at Stamford, is president and treasurer of the new company, and Frederick F. Lockwood secretary. The location is at No. 131 Main street, Paterson, New Jersey.

GUAYULE IN TEXAS.

CONTRACTS are being entered into between the general land office of Texas and the Big Bend Manufacturing Co. for all the guayule shrubs over 6 inches tall that may be found upon the unsold public school lands in the state, that company having been the highest bidder for such guayule. [See THE INDIA RUBBER WORLD, October 1, 1907—page 21.] The price bid was $61,000. The company have four years in which to remove the guayule. James D. Crenshaw, of San Antonio, is president of the Big Bend Manufacturing Co., incorporated in Delaware August 27, 1907, with $25,000 capital authorized.

TAXIMETER CABS IN NEW YORK.

THE New York Taxicab Co. on October 1 began their service of motor cabs of the landaulette type, available for use either open or closed, with a seating capacity for four persons inside and one person outside with the driver. Each cab is equipped with a taximeter for the regulation of charges, which are 30 cents for the first half mile or fraction, and 10 cents for each quarter mile thereafter—a marked reduction from prices ordinarily paid for cab service in New York. The company began with about 70 cabs, starting from the principal hotels and clubs, and it is intended to increase the number until several hundred are in use. It is stated that 600 cabs have been contracted for. Based upon the success of the Compagnie Française des Automobiles de Place, of Paris, and several companies in London operating similar systems, it is estimated that the new service will prove popular and profitable, and if so an important new demand for pneumatic tires will be created. The offices of the New York Taxicab Co. are at No. 546 Fifth avenue. Harry N. Allen is president; G. Winthrop Sands, vice-president; Walter C. Allen, secretary, and W. W. Tracy, treasurer. Messrs. Sands, Tracy and H. N. Allen are the directors in New York of the New York Motor Cab Co., Limited, recently registered in London [see THE INDIA RUBBER WORLD August 1, 1907—page 352], which corporation owns and controls the New York Taxicab Co. The taximeters used supplied by Société Générale des Compteurs de Voitures of Paris.

Another New York company has been talked of for entering the same field, by the name of The Touring Car and Taxicab Co., but no details are yet available regarding it.

THE "P. B." DYNAMOMETER.

IN connection with the above-named testing machine for india-rubber and certain other materials, referred to in THE INDIA RUBBER WORLD for September 1 (page 382) as having been bought out by A. D. Cillard fils, of Paris, it was mentioned that a New York address was maintained by the interest. Since the article in question was first written the New York address has been changed. The address now is Nos. 43-45 West Thirty-fourth street, and in writing, letters should be addressed to Mr. Ch. Dien.

WHEN TIRES CAN COME IN FREE.

THE United States treasury department has issued a circular to customs officials, regulating the admission of foreign made automobiles, once imported and paying duty, and afterward taken abroad by the owners for touring purposes. On taking out of the country any such automobile the owner is required to obtain a certificate, to aid in the identification of the car when its entry is again sought. "If the certificate covers a set of foreign tires, it will not be necessary to prove that the tires brought back on the wheels were those taken abroad. - - - Foreign tires taken out on the wheels of automobiles may be brought back free of duty."

NEW GENERAL ELECTRIC PLAN.

IT is stated that the General Electric Co. have recently inaugurated a radical revision of their entire system of credits on goods sold which seems likely, when fully worked out, to have the practical effect of a 15 to 20 per cent. increase in working capital, making it possible for the company to do from $10,000,000 to $12,000,000 more gross business than at present, without any increase in capitalization.

CHANGE OF FIRM STYLE.

I. I. SHONBERG having resigned from the partnership of Green & Shonberg, dealers in scrap rubber at Nos. 110-116 Nassau street, New York, this business will be conducted hereafter under the name of Hans L. Green & Co., by Hans L. Green and Harry A. Weisberger. Mr. Green has lately returned from Europe, where he obtained the agencies of important dealers, and in order to manage an increasing business the firm are occupying larger quarters than formerly.

INSPECTION OF ELECTRIC WIRES.

THE Wire Inspection Bureau, some account of the work of which appears elsewhere in this paper, have sent out all over the country requests for samples of electric wires taken from old or put into new installations, with suitable blank forms for filling in certain details descriptive of the samples and their history. The object is to find out how wires made up with different characteristics will stand the test of time.

A NEW HAVEN WIRE PLANT SOLD.

THE wire plant of the National Wire Company, at New Haven, Connecticut—a company placed in the hands of receivers early in the year and later adjudged bankrupt—has been purchased by the American Steel and Wire Co. (Worcester, Massachusetts), a subsidiary company of the United States Steel Corporation. The price mentioned is $650,000. H. Stuart Hotchkiss (of L. Candee & Co., rubber manufacturers) was one of the receivers and one of the trustees of the estate in bankruptcy. The American Steel and Wire Co. manufacture rubber insulated wire, among other products, at Worcester, but will not make this type of wire at New Haven.

DUTIABLE WASTE RUBBER IMPORTS.

AN importation at New York was found to consist of new scrap rubber consisting of pieces of hot-water bottles, tubing, and the like, rejected as waste at the factory. The board of general appraisers upheld the classification of the goods as waste under paragraph 463, tariff act of 1897 ["Waste, not specially provided for in this act, 10 per cent. *ad valorem*"], overruling the importer's contention that it was free of duty under paragraph 579 as refuse rubber fit only for remanufacture.

GRANT TIRE PATENT TO THE SUPREME COURT.

APPLICATION for a writ of *certiorari* has been made to the United States supreme court in the case of The Milwaukee Rubber Works Co. against The Rubber Tire Wheel Co. In the first place, the Rubber Tire Wheel Co., the owner of the Grant solid tire patent (No. 554,675), entered into relations with a combination of tire manufacturers, and in time sued the Milwaukee company on a claim that it had not kept its agreement as to the payment of royalties. There was involved a fund of $50,000 for the purpose of maintaining the combination. The United States circuit court for the eastern district of Wisconsin dismissed the case on the ground that the agreement was in restraint of trade. [See THE INDIA RUBBER WORLD, March 11, 1906—page 194.] The circuit court of appeals reversed this decision and ordered judgments for the royalties claimed, taking the ground that as the $50,000 fund had never been actually used to kill off competition, no offense had been committed, and besides the trade in patent articles, it held, was exempt from the general prohibition against combinations in restraint of trade and competition. The Milwaukee company now seek an adjudication of the case by the supreme court.

NEW INCORPORATIONS.

IOWA Auto and Tire Co., September 5, 1907, under the laws of Iowa; capital, $24,000; to handle automobiles and repair tires, and run a general garage business, at No. 414 Main street, Davenport, Iowa. Theo. Oelkers is president, J. L. Hebert, treasurer, and P. C. Petersen sales manager.

Green Insulation Co., October 4, 1907, under the Ohio laws; capital, $50,000. Incorporators: D. J. Barry, E. P. Strong, J. E. Chadwick, I. C. McDonald, and G. L. Rebman. Location: Cleveland, Ohio.

Delta Rubber Co., September 4, 1907, under the New Jersey laws; capital, $100,000. Incorporators: Edward D. Cronin, Brooklyn; Fred Knowlton and Edgar A. Monfort, New York City.

Haverhill Rubber Co., October 1, 1907, under the Massachusetts laws; capital, $25,000. Incorporators: Erastus E. Dorman, Lawrence, Mass.; Georgia Clark and Isaac Crocker, Providence, Rhode Island.

Home Tire Co., October 2, 1907, under the New Jersey laws; capital, $25,000. Incorporators: Edward W. Moore, Jr., Harry Klag, Jr., and Charles A. Comp, all of Trenton, N. J.

The Maryland Belting and Packing Co., October 2, 1907, under the Delaware laws; capital, $100,000. This company, manufacturing special stitched canvas belting and packing, was formerly incorporated under the laws of Maryland, with a smaller capital. George D. Iverson, Jr., is president, Arthur L. Campbell vice president, and Samuel T. Owings secretary-treasurer. Location: Nos. 502-506 South Dallas street, Baltimore.

The Coomber Tire and Rubber Co., October 4, 1907, under the laws of New York; capital, $25,000. To manufacture packings and tire treads, at Jersey City, New Jersey; New York office, No. 120 Cedar street. James J. Coomber, of New York city, and William H. Caffrey, of Brooklyn, are among the directors.

The Bayne-Subers Tire and Rubber Co., October 5, 1907, under the Ohio laws; capital, $5000. Incorporators: L. A. Subers (president and manager of The Cosmopolitan Sanatorium Co., Cleveland, Ohio), Dr. E. D. C. Bayne, A. T. Osborn, E. O. Peets, J. E. Taylor, O. N. McClintock, and Z. B. Sawyer.

TRADE NEWS NOTES.

Hopewell Brothers (Cambridge, Massachusetts), manufacturers of the Hopewell tire case described in THE INDIA RUBBER WORLD September 1, 1906 (page 394), announce that they have decided to furnish with each of their cases an inner tube case, in consequence of which they are making an advance in their list prices. In future they will not sell tire cases without this tube case.

Mr. R. G. Howell, who retired lately as manager of the Franklin car department of Wyckoff, Church & Partridge (New York), dealers in automobiles and tires, has had incorporated under the laws of New York state The R. G. Howell Co., with Mr. Howell as president and general manager and J. Z. Baten, treasurer, and headquarters at No. 1657 Broadway. They have secured the agency for The Northern Motor Car Co. (Detroit) for New York and vicinity.

The O'Sullivan Rubber Co. include in their output of rubber heels the principal fashionable shapes in ladies' wear—something that not all the houses in the trade do. Their small "Cuban" heels, with flaring wings, are referred to as smaller than any other rubber heels in the market.

Mr. W. N. Shelton, manager of the cravenette, mackintosh, and surface clothing department of the Hodgman Rubber Co. (New York), left for the West on October 15, for an extended tour among the Hodgman jobbers.

TIRES FOR THE CARRIAGE TRADE.

THE exhibition held in connection with the thirty-fifth annual convention of the Carriage Builders' National Association, in New York, beginning on October 8, was located, as last year, in the St. Nicholas Rink. There was a goodly number of exhibitors of carriage parts and materials, and their displays were varied, extensive, and attractive. Among the exhibits of carriage accessories were several leading tire firms, the list including:

Consolidated Rubber Tire Co.....New York.
The Diamond Rubber Co.....Akron.
Firestone Tire and Rubber Co.....Akron.
The B. F. Goodrich Co.....Akron.
The Goodyear Tire and Rubber Co.....Akron.
The Hartford Rubber Works Co.....Hartford.
Kokomo Rubber Co.....Kokomo.
The Republic Rubber Co.....Youngstown.
The Victor Rubber Co.....Springfield.

The Victor Rubber Co. also showed a tire applying machine in operation. The Milholland solid and cushion rubber tire, with a new system of fastening, was shown by the Milholland Co. (Dunkirk, New York), and pneumatic tired wire wheels by The Mott Wheel Works (Utica, N. Y.).

The Fairfield Rubber Co. showed a fine line of carriage cloths and imitation leather. The L. C. Chase Co. had on display an attractive line of rubber ducks and drills and auto fabrics. The Fabrikoid Co. were also represented. Rubberset Brush Co. (Newark, New Jersey) showed their patent brushes with bristles set in hard rubber.

UNITED STATES RUBBER CO.'S ISSUES.

TRANSACTIONS on the New York Stock Exchange for five weeks, ending October 28:

COMMON STOCK.

Week	Sept.	30	Sales	300	shares	High 30	Low	27⅛
Week	Oct.	7	Sales	2400	shares	High 27	Low	26½
Week	Oct.	14	Sales	1720	shares	High 27½	Low	22½
Week	Oct.	21	Sales	3450	shares	High 22¾	Low	17
Week	Oct.	28	Sales	3700	shares	High 20½	Low	16

For the year—High, 52½, Feb. 16; low, 16, Oct. 25.
Last year—High, 39½; low, 38.

FIRST PREFERRED STOCK.

Week	Sept.	30	Sales	810	shares	High 92¼	Low	89¾
Week	Oct.	7	Sales	3389	shares	High 92⅛	Low	88
Week	Oct.	14	Sales	1885	shares	High 88	Low	84¼
Week	Oct.	21	Sales	5085	shares	High 84	Low	75
Week	Oct.	28	Sales	4589	shares	High 79	Low	68

For the year—High, 109⅞, Jan. 7; low, 68, Oct. 25.
Last year—High, 115; low, 104¾.

SECOND PREFERRED STOCK.

Week	Sept.	30	Sales	200	shares	High 61¾	Low	61½
Week	Oct.	7	Sales	300	shares	High 60	Low	60
Week	Oct.	14	Sales	700	shares	High 57	Low	53
Week	Oct.	21	Sales	700	shares	High 55	Low	48½
Week	Oct.	28	Sales	510	shares	High 50	Low	40

For the year—High, 78¼, Jan. 7; low, 40, Oct. 26.
Last year—High, 87½; low, 75.

The market for securities of every class has been depressed for some weeks past, without regard to the condition of the companies affected, due to reasons of financial stringency which now promise to be of a temporary character.

POPE MANUFACTURING CO.

GEORGE A. YULE, of Kenosha, Wisconsin, has been appointed co-receiver of the Pope Manufacturing Co., to act with Albert L. Pope, whose appointment was reported lately in this journal. The work of the receivership will be so divided as to render Mr. Pope's presence in the West necessary less frequently than before. The Pope Manufacturing Co.'s plant at Westfield, where nearly 400 men were employed, with a weekly payroll of about $6,000, has been closed. Negotiations are understood to be in progress for the sale of the company's Pope-Toledo factory. The National Association of Automobile Manufacturers has declined to accept the resignation of Albert L. Pope as president.

VISITORS FROM PARA.

THE steamer *Acre*, one of the three new boats lately put in commission by the Lloyd Braziléiro for service between Rio de Janeiro and New York, on her first trip north, carried a party of tourists from Parà and other Braziiian ports, who spent ten days in sightseeing in New York, Boston, Philadelphia and Washington and visited Niagara Falls.

OBITUARY NOTES.

TRENOR L. PARK, senior partner in the New York and Boston cotton duck commission house of Catlin & Co., died on October 23, in his forty-eighth year, following a surgical operation. He was the son of Trenor W. Park, a Vermont lawyer, was graduated from Harvard, and entered the Catlin firm in 1883. THE INDIA RUBBER WORLD is advised that the new Catlin co-partnership recently entered into will not be affected by the decease of Mr. Park.

Bulletin No. 60 of the Meriden Rubber Planting Corporation, issued from Tula de los Tuxtlas, Mexico, records the death, on August 28, of Mrs. Lanette Miller Foster, the wife of Mr. J. Herbert Foster, lately of Meriden, Connecticut, the founder of the company and its manager in Mexico. She had coöperated enthusiastically with her husband in the carrying out of his plans in Mexico and contributed in an important degree to the building up of an enjoyable social circle in their new locality, besides which she was an authoress of no little note.

TRADE NEWS NOTES.

A FIRE occurred on October 2 at the plant of The Rossendale-Reddaway Belting and Hose Co., Limited (Newark, New Jersey). The amount of the damage is not reported, but the insurance on the buildings and stock affected amounted to $28,300.

Jinrikisha wire wheels for export, with English pattern clincher or cushion rims, and 1¾ or 1⅛ inch solid rubber or rubber cushion tires, are a specialty of The Mott Wheel Works (Utica, New York). They supply also rubber tired wheels for victorias, dog carts, and sulkies.

The Peerless Rubber Manufacturing Co. (New York) were represented at the exhibition in connection with the convention of the American Street and Interurban Railway Manufacturers' Association, at Atlantic City, New Jersey, during the past month, by a display of their "Rainbow" packing, and also selections from their stock of hose, packing, step treads, and so on.

Charles H. Oakley, formerly of the Ajax-Grieb Rubber Co., is now with the Combination Rubber Manufacturing Co., of Bloomfield, New Jersey, as is also Charles McCoy, formerly of the Standard Rubber Co., of Trenton.

The Barrett Manufacturing Co., of Philadelphia, have moved their offices from the Land Title building to their factory.

Philip McGrory, of Trenton, has about completed the dismantling of the South street plant of the Philadelphia Rubber Works, abandoned by the latter since the completion of their new plant.

A train out from Utica, New York, for the Adirondacks, on October 27, was wrecked by the breaking of a truck, injuring several passengers. Among them was Leonard F. Requa, formerly of the Safety Insulated Wire and Cable Co. (New York), and Mrs. Requa, the latter having been hurt more seriously than anyone else on the train.

The Tehuantepec Rubber Culture Co. (New York) announce to their subscribers that the suspension of payment by the Knickerbocker Trust Co. (New York), which the company believe to be only temporary, will in no wise embarrass the company's interests. The rubber company recently invested in New York City bonds that portion of their funds not required for immediate operations, reducing their deposit with the Knickerbocker Trust to a small figure.

The registered style of a tire patent infringement suit mentioned in THE INDIA RUBBER WORLD October 1 (page 23) was originally The G. & J. Tire Co. *vs.* United States Agency, Michelin Tire Co. On March 6, 1905, a petition was filed making the Michelin Tire American Agency a party defendant. The case has not been argued yet, counsel being engaged still in taking testimony.

TRADE NEWS NOTES.

THE St. Louis Rubber Cement Co. have opened a Boston office, at No. 161 Summer street, in charge of William O. Hadley, and it is announced that the company will establish stores at Haverhill, Lynn, and Brockton, Massachusetts, for the more convenient supply of the St. Louis cements to the New England trade.

The Peerless Rubber Manufacturing Co. (New York) have added to their list of agencies one at No. 37 Hopkins place, Baltimore, Maryland.

Frank C. Riggs has resigned as vice-president of The Fisk Rubber Co. to become affiliated with the Packard Motor Car Co., in charge of their commercial vehicle department.

J. E. Ham, who has long been connected with the insulated wire trade, being latterly with the Hazard Manufacturing Co. (Wilkesbarre, Pennsylvania), has been appointed Western representative of the Waterbury Co. (New York), for the introduction of their insulated wires, and will have charge of the Waterbury branch at No. 108 La Salle street, Chicago.

Stanley Supply Co. (Dr. S. Stanley Jacobs, proprietor), No. 38 East Twenty-first street, New York, are surgical rubber specialists, supplying everything in rubber for hospital use. They have supplied many hospitals throughout the country, including those under control of the department of charities of New York city. Among their specialties are surgeons' operating gloves and the "Solo" pure rubber bottle cap.

Boston Woven Hose and Rubber Co. are making a specialty of fruit jar rings in handy packages, which renders the trade in these articles more convenient than when the rings were shipped in bulk.

Joseph Bondy's Sons (No. 17 Liberty street, New York) advise THE INDIA RUBBER WORLD that they are prepared to supply viscose, about which a correspondent inquired in a recent issue.

Receivers have been appointed for the Westinghouse Electric and Manufacturing Co. (Pittsburgh) and affiliated corporations, on the application of H. H. Westinghouse, a stockholder. The reason given is that the company found it impossible to secure ready money for all the large contracts it has on hand, but no doubt is expressed that the company will be able to continue in business.

L. T. Vance has become connected with the Sweet Tire and Rubber Co. (Batavia, New York).

Dermot McEvoy has been appointed general manager of the Derby Rubber Co., rubber reclaimers, at Derby and Shelton, Connecticut. He is a mechanical engineer by profession, whose work has brought him into close contact with the rubber industry.

James C. Matlack, for some years with the International Automobile and Vehicle Tire Co., has been elected vice president and general manager of The Michelin Tire Co., who have acquired the International plant at Milltown, New Jersey, and added to it largely.

A copartnership has been formed to continue the business and firm of Catlin & Co. in the cotton duck trade, in New York, by Lowell Lincoln, Trenor L. Park, Charles E. Sampson, S. S. Widger and Arthur J. Cumnock, until January 1, 1911.

The United States consul at Colon, Panama, in writing officially to Washington, expresses a desire for catalogues of rubber goods.

The 1908 specifications for Reo automobiles, all models, call for Michelin pneumatic tires, with Goodyear detachable rims.

Anderson G. Wilson, a member of the firm of J. M. Ceballos & Co., bankers and brokers, of New York—which firm made an assignment in October, 1906, on account, as alleged, of the failure of a Cuban correspondent—on September 4 filed a petition in the United States district court at Trenton, New Jersey, to have the firm declared bankrupt, with liabilities of $3,699,800.47. Counsel for the firm have until October 5 to file an answer. Messrs. Ceballos & Co., as general merchants, were at times consignees for rubber to an important extent.

Goodall Rubber Co., Inc., formerly at No. 153 North Fourth street, Philadelphia, removed during the past month to No. 704 Arch street, where they have greater floor space and better facilities generally for handling mechanical rubber goods. The firm make a specialty of railroad and contractors' wants.

The Boston Belting Co., manufacturers of mechanical rubber goods of all kinds, are sending to their friends in the trade one of "King's Booklets," containing good views of the work in progress in constructing the Panama canal, and Panama views generally.

PERSONAL MENTION.

MONSIEUR EMILE ALCAN, of the crude rubber firm Hecht Fréres et Cie., of Paris, is visiting the United States, intending to sail for home about the 7th of this month.

The friends of Mr. William M. Ivins, the New York lawyer, are beginning to regard him as the probable choice of his party for governor of New York state next year, on account of the interest taken in him by the public as the central figure in the investigation into transportation affairs in New York city. It will be recalled that Mr. Hughes, the present governor, first won the general attention in somewhat similar work in connection with probing the insurance company scandals.

Mr. George M. Allerton, general manager of the Seamless Rubber Co. (New Haven, Connecticut), who for some three months has been slowly recovering from a severe attack of typhoid fever, is practically well again and back at his desk.

Mr. Charles Howard Norton, advertising manager for George Borgfeldt & Co., and Miss Adele Eddy Black were married in New York on October 16, and started for Canada for their wedding journey. A handsome wedding present was sent by the members of the Borgfeldt firm.

Charles H. Dale, president of the Rubber Goods Manufacturing Co., in addition to serving as an officer or director of most of the subsidiary concerns of that company, is on the board of three New York banks—the Merchants' Exchange, the Irving National, and the Century.

A recent visitor to New York was described as Prince d'Abro Pazratido, of Egypt, whose family are wealthy and powerful in that country, and largely interested in cotton culture. The prince planned to visit the cotton growing region of the United States for the purpose of studying conditions there.

Mr. R. Hale Smith, of The R. H. Smith Manufacturing Co. (Springfield, Massachusetts), an important rubber stamp concern, is reported to have narrowly escaped asphixiation while experimenting in the laboratory of the company's works on October 23, a gas heating apparatus being in use.

Colonel Samuel P. Colt, president of the United States Rubber Co., whose illness has been referred to in these columns lately, was improving at last accounts and hoped soon to be in his office again.

THE LATEST RUBBER SUBSTITUTE.

HARRY B. COX, a chemist of No. 77 Sigourney street, Hartford, Connecticut, has developed what he terms a substitute for india-rubber and has named it "Halcox." This is referred to as capable of being compounded as readily as natural rubber, and of being vulcanized with even greater facility. Mr. Cox says that it has the advantage over rubber that it may be produced in any required consistency—liquid, plastic, or stiffer if required—and that it can be held in a state as liquid as water, but nothing will be evaporated or lost as is the case where rubber is reduced to a liquid form by the use of naphtha. Mr. Cox informs THE INDIA RUBBER WORLD: "The product will soon be a regular market commodity, manufactured and backed by a prominent rubber company."

FOR the rubber factory—Pearson's "Crude Rubber and Compounding Ingredients."

Review of the Crude Rubber Market

THE rubber market continues depressed, and quotations are even lower than a month ago. Buying at New York has been far from active, and for many grades only nominal quotations can be given. It is believed that the leading consumers have rubber due them on contracts for some months ahead, so that no decline in current prices serves to stimulate buying on a liberal scale. The quotations presented at this time require a word of explanation regarding the relative prices for Africans and Pará grades. Business is actually being done in the latter at the prices quoted, and at a profit to the importers, it is asserted. As for Africans, the quantity handled is smaller and the demand more fitful, and each transaction is subject to special terms. But the manufacturer who demands a special grade of Africans must be prepared to pay liberally for it. It is not to be understood that an important quantity of Africans is being sold at higher prices than for Parás, but certain grades of the former are now being held at even higher figures than in the quotation list that follows.

The regular Antwerp sale occurred on October 17, when 256 tons were offered and 183 tons found buyers. Messrs. C. Schmid & Co. advise THE INDIA RUBBER WORLD: "Prices show on an average a decline of about 35 centimes per 100 kilos, or about 4 per cent. on values paid in September. As Pará sorts declined meanwhile about 10 per cent., this result may be considered as relatively satisfactory." The next sale will take place November 13; the quantity will be about 450 tons.

Pará arrivals for the month, up to and including the 27th, were 2525 tons, of which 235 tons caucho, against 2590 tons for the same dates last year.

Following are the prices at New York for Pará grades, one year ago, one month ago, and October 30—the current date:

PARA.	Nov. 1, '06.	Oct. 1, '07.	Oct. 30.
Islands, fine, new	119@120	99@100	91@ 92
Islands, fine, old	none here	none here	—@ —
Upriver, fine, new	124@125	106@107	99@100
Upriver, fine, old	128@129	110@112	105@106
Islands, coarse, new	72@ 73	59@ 60	56@ 57
Islands, coarse, old	none here	none here	—@ —
Upriver, coarse, new	96@ 97	88@ 89	84@ 85
Upriver, coarse, old	none here	none here	—@ —
Caucho (Peruvian) sheet	77@ 78	69@ 70	62@ 63
Caucho (Peruvian) ball	95@ 96	85@ 86	80@ 81
Ceylon (Plantation) fine sheet	139@140	129@130	113@114

AFRICAN.

Sierra Leone, 1st quality	94@ 95	Lopori ball, prime	101@102
Massai, red	94@ 95	Lopori strip, prime	95@ 96
Benguella	65@ 66	Madagascar, pinky	82@ 83
Accra flake	18@ 19	Ikelemba	102@103
Cameroon ball	71@ 72	Soudan niggers	83@ 90

CENTRALS.

Esmeralda, sausage	82@ 83	Mexican, scrap	82@ 83
Guayaquil, strip	68@ 69	Mexican, slab	60@ 61
Nicaragua, scrap	81@ 82	Mangabeira, sheet	56@ 57
Panama, slab	62@ 63	Guayule	40@ —

EAST INDIAN.

Assam	90@ 91	Borneo	36@ 37

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	4$125	Upriver, fine	5$425
Islands, coarse	2$350	Upriver, coarse	4$300
		Exchange	15¼*d.*

Latest Manàos advices:

Upriver, fine	5$450	Exchange	15 7-32 *d.*
Upriver, coarse	3$450		

NEW YORK PRICES FOR SEPTEMBER (New Rubber).

	1907.	1906.	1905.
Upriver, fine	1.06@1.10	1.22@1.24	1.29@1.32
Upriver, coarse	.88@ .90	.92@ .94	.91@ .94
Islands, fine	.99@1.05	1.18@1.20	1.26@1.29

Statistics of Para (Excluding Caucho.)

	NEW YORK. Fine and Medium.	Coarse.	Total. 1907.	Total. 1906.	Total. 1905.
Stocks, August 31.....*Tons*	165	75 =	240	147	417
Arrivals, September	387	206 =	593	723	445
Aggregating	552	281 =	833	870	862
Deliveries, September	428	232 =	660	777	546
Stocks, September 30	124	49 =	173	93	316
	PARA.			ENGLAND.	
Stocks, August 31. *Tons* 290	376	240	625	790	390
Arrivals, September 2230	1565	1230	600	460	690
Aggregating 2520	1941	1470	1225	1250	1080
Deliveries, September 1948	1491	1195	675	550	700
Stocks, September 30. 572	450	275	550	700	380

	1907.	1906.	1905.
World's visible supply, September 30. *Tons*	2,383	1,876	1,534
Pará receipts, July to September 30	4,720	2,865	2,480
Pará receipts, Caucho, same dates	610	485	220
Afloat Pará to United States, September 30	383	218	87
Afloat Pará to Europe, September 30	705	415	476

IN regard to the financial situation Albert B. Beers (brokers in crude rubber and commercial paper, No. 68 William street, New York) advises as follows:

"During the early part of October there was a small demand from out-of-town banks for paper at the full rates of 7@8 per cent., but with the acute money conditions during the latter part of the month paper business came to a complete standstill."

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weight in Pounds.]

OCTOBER 3.—By the steamer *Obidense*, from Manàos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
Poel & Arnold	169,500	55,600	58,600	300=	284,000
New York Commercial Co.	95,700	15,600	37,500	1,200=	150,000
A. T. Morse & Co.	23,600	6,700	69,300	....=	99,600
General Rubber Co.	42,000	3,400	44,600	2,700=	92,700
C. P. dos Santos	29,000	10,700	34,300	....=	74,000
Hagemeyer & Brunn	34,300	....	19,100	....=	53,400
Edmund Reeks & Co.	22,100	3,600	12,600	....=	38,300
Neal & Co.	1,400	300	12,500	....=	14,200
Total	417,600	95,900	288,500	4,200=	806,200

OCTOBER 14.—By the steamer *Maranhense*, from Manàos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
New York Commercial Co.	129,100	27,900	49,400	2,700=	209,100
General Rubber Co.	107,400	22,500	50,900	17,500=	108,300
Poel & Arnold	75,800	21,000	61,400	....=	158,200
A. T. Morse & Co.	78,100	10,600	13,200	1,000=	102,900
C. P. dos Santos	.....	....	25,100	....=	25,100
Edmund Reeks & Co.	10,300	2,500	9,200	....=	22,000
Czarnikow, McDougal & Co.	19,600	....	.....	....=	19,600
Total	420,300	84,500	209,200	21,200=	735,200

OCTOBER 24.—By the steamer *Dunstan* from Manàos and Pará:

New York Commercial Co.	339,000	60,500	84,800	1,700=	486,000
Poel & Arnold	151,000	31,900	76,800	2,300=	262,000
General Rubber Co.	120,300	13,600	99,500	20,300=	253,700
A. T. Morse & Co.	162,900	7,000	46,500	....=	216,400
Edmund Reeks & Co.	.....	.....	.....	22,300=	22,300
Hagemeyer & Brunn	10,000	.....	5,900	....=	15,900
C. P. dos Santos	.....	.....	17,800	....=	17,800
Total	783,200	113,000	331,300	46,600=	1,274,100

[NOTE.—The steamer *Madeirense* from Pará due at New York on November 2d, with 325 tons of rubber.]

Rubber Scrap Prices.

NEW YORK prices—in cents per pound for carload lots—are practically unchanged. Shoes are a trifle lower:

Old rubber boots and shoes—domestic	11¾@12
Old rubber boots and shoes—foreign	11¼@11½
Pneumatic bicycle tires	7½@ 7¾
Automobile tires	9⅞@10
Solid rubber wagon and carriage tires	10 @10¼
White trimmed rubber	12½@12¾
Heavy black rubber	5¾@ 6
Air brake hose	4¾@ 5
Fire and large hose	3⅝@ 3¾
Garden hose	2½@ 2¾
Matting	1½@ 1⅝

PARA RUBBER VIA EUROPE.

		Pounds.
SEPTEMBER 21.—By the *Arabic*=Liverpool:		
Poel & Arnold (Caucho)	55,000	
Poel & Arnold (Fine)	4,500	59,500
SEPTEMBER 25.—By the *President Grant*=Hamburg:		
New York Commercial Co (Fine)	13,000	
Rubber Trading Co. (Fine)	8,000	21,000
SEPTEMBER 30.—By the *Minnehaha*=London:		
General Rubber Co. (Coarse)	7,000	
OCTOBER 2.—By the *Carmania*=Liverpool:		
New York Commercial Co. (Fine)	13,500	
Robinson & Stiles (Fine)	11,500	
New York Commercial Co. (Caucho)	11,500	36,500
OCTOBER 4.—By the *Cedric*=Liverpool:		
New York Commercial Co. (Fine)	27,000	
OCTOBER 7.—By the *Advance*=Mollendo:		
New York Commercial Co. (Fine)	22,500	
A. D. Hitch & Co. (Fine)	3,500	
F. Rosenstein & Co. (Fine)	3,500	
New York Commercial Co. (Coarse)	3,000	32,500
OCTOBER 8.—By the *Lucania*=Liverpool:		
New York Commercial Co. (Fine)	17,000	
N. Y. C. Co. (Coarse)	9,000	
Robinson & Stiles (Fine)	11,000	
W. L. Gough Co. (Coarse)	9,000	46,000
OCTOBER 16.—By the *Caronia*=Liverpool:		
General Rubber Co. (Caucho)	75,000	
OCTOBER 16.—By the *President Lincoln*=Hamburg:		
W. L. Gough Co. (Fine)	3,000	

OTHER NEW YORK ARRIVALS.

CENTRALS.

		Pounds.
SEPTEMBER 21.—By the *Finance*=Colon:		
L. Johnson & Co.	9,000	
G. Amsinck & Co.	8,000	
Hirzel, Feltman & Co.	6,000	
Piza Nephews Co.	4,000	
Dumarest Bros. Co.	2,500	
Roldan & Van Sickle	1,500	
Henry Mann & Co.	1,000	32,000
SEPTEMBER 21.—By the *Canning*=Bahia:		
General Rubber Co.	20,000	
J. H. Rossback Bros.	13,000	
New York Commercial Co.	8,000	
A. Hirsch & Co.	4,000	45,000
SEPTEMBER 22.—By the *Mexico*=Pernambuco:		
Harburger & Stack	7,000	
Graham, Hinkley Co.	1,000	
E. Steiger & Co.	1,000	
H. Marquardt & Co.	1,000	10,000
SEPTEMBER 23.—By the *Altai*=Colon:		
Johnson & Co.	7,000	
G. Amsinck & Co.	1,500	
Hirzel, Feltman & Co.	1,000	9,500
SEPTEMBER 24.—By the *Goyaz*=Pernambuco:		
A. D. Hitch & Co.	4,500	
SEPTEMBER 23.—By the *Santiago*=Tampico:		
New York Commercial Co.	*78,000	
Ed. Maurer	*30,000	
Poel & Arnold	*20,000	
Diamond Rubber Co.	*10,000	*138,000

CENTRALS—*Continued.*

SEPTEMBER 26.—By the *Colon*=Colon:

G. Amsinck & Co.	8,500	
Jose Julia & Co.	1,500	
Aramburg Incpta.	1,000	
D. A. De Lima & Co.	1,000	
Meyer Hecht	1,000	13,000

SEPTEMBER 28.—By the *Monterey*=Vera Cruz:

New York Commercial Co.	2,500	
H. Marquardt & Co.	2,000	
Graham, Hinkley Co.	1,000	5,500

OCTOBER 2.—By the *Advance*=Colon:

G. Amsinck & Co.	11,500	
Hirzel, Feltman Co.	11,000	
Roldan & Van Sickle	2,500	
Henry Mann & Co.	2,000	
Maldonado & Co.	1,000	28,000

OCTOBER 2.—By the *Maracaibo*=Coro:

G. Amsinck & Co.	3,500	
Suzarte & Whitney	2,500	6,000

OCTOBER 2.—By the *Antilla*=Tampico:

New York Commercial Co.	*40,000	
Ed. Maurer	*30,000	
Akron, Ohio	*10,000	*80,000

OCTOBER 2.—By the *Prins Eittel*=Greytown:

G. Amsinck & Co.	3,000	
Aramburo, Inc.	1,500	
A. Rosenthal's Sons	1,000	5,500

OCTOBER 2.—By the *El Paso*=Galveston:

Continental-Mexican Rubber Co.	*45,000

OCTOBER 2.—By the *Siberia*=Colombia:

G. Amsinck & Co.	2,000	
American Trading Co.	1,500	
D. A. De Lima & Co.	1,000	
I. Brandon & Bros.	1,000	
Pedro Lopex	1,000	
Kunhardt & Co.	1,000	7,500

OCTOBER 3.—By the *Proteus*=New Orleans:

Eggers & Heinlein.	2,000	
W. R. Grace & Co.	1,000	
A. T. Morse & Co.	1,000	
G. Amsinck & Co.	1,000	
Manhattan Rubber Mfg. Co.	1,000	6,000

OCTOBER 4.—By the *Bayamo*=Tampico:

Ed. Maurer	*70,000	
New York Commercial Co.	*56,000	
Poel & Arnold	*5,000	
Diamond Rubber Co.	*5,000	*176,000

OCTOBER 5.—By the *Merida*=Frontera:

Harburger & Stack	4,500	
American Trading Co.	2,500	
Strube & Ultze	2,000	
E. Steiger & Co.	1,500	
Thebaud Brothers	1,000	
New York Commercial Co.	1,000	
E. N. Tibbals & Co.	1,000	13,500

OCTOBER 7.—By the *Thespis*=Bahia:

A. Hirsch & Co.	13,000	
New York Commercial Co.	17,000	
J. H. Rossback Bros.	8,500	
Poel & Arnold	8,000	46,500

OCTOBER 7.—By the *Advance*=Colon:

New York Commercial Co.	5,500	
Henry Mann & Co.	4,500	
G. Amsinck & Co.	3,000	
Andreas & Co.	2,000	
Diamond Rubber Co.	1,000	16,000

OCTOBER 8.—By the *Lucania*=Liverpool:

Wilson Trading Co.	*22,500

OCTOBER 8.—By the *Venetia*=Colon:

G. Amsinck & Co.	3,000	
Hirzel, Feltman & Co.	3,000	
West Coast Rubber Co.	2,500	
A. M. Capen's Sons	2,000	
Roldan & Van Sickle	1,500	12,000

OCTOBER 11.—By the *Gunther*=Bahia:

New York Commercial Co.	10,000	
General Rubber Co.	5,000	15,000

OCTOBER 12.—By the *Morro Castle*=Frontera:

H. Marquardt & Co.	3,500	
Harburger & Stack	3,000	
E. Steiger & Co.	1,000	7,500

OCTOBER 12.—By the *Dunottar Castle*=Colon:

Dumarest Bros. & Co.	4,000	
G. Amsinck & Co.	2,000	
Pablo, Calvet & Co.	1,500	
Hirzel, Feltman & Co.	1,000	
L. Johnson & Co.	1,000	9,500

OCTOBER 14.—By the *Vigilancia*=Tampico:

E. Maurer	*25,000	
For Boston	*22,000	*47,500

OCTOBER 16.—By the *El Valle*=Galveston:

Continental Mexican Rubber Co.	*56,000

OCTOBER 17.—By the *Segismund*=Colombia:

G. Amsinck & Co.	2,500	
I. Brandon & Bros.	1,000	
A. Santos & Co.	1,000	
Kunhardt & Co.	1,000	

CENTRALS—*Continued.*

A. M. Capen Sons	1,000	
A. Held	1,000	
American Trading Co.	1,000	
Leech Harrison Co.	2,500	11,000

OCTOBER 18.—By the *Mexico*=Vera Cruz:

H. Marquard & Co.	1,500	
Graham, Hinkley Co.	1,000	
Harburger & Stack	1,000	3,500

OCTOBER 18.—By the *Comus*=New Orleans:

Manhattan Rubber Co.	1,500	
American Trading Co.	1,500	
Eggers & Heinlein.	1,000	
G. Amsinck & Co.	1,000	5,000

OCTOBER 22.—By the *Santiago*=Tampico:

New York Commercial Co.	65,000	
Poel & Arnold	*	*100,000

OCTOBER 23.—By the *Colon*=Colon:

Hirzel, Feltman & Co.	13,000	
L. Johnson & Co.	7,000	
Roldan & Van Sickle	6,000	
G. Amsinck & Co.	4,000	
Aramburo, Incorporated	3,000	
Jose Julia & Co.	1,500	
Demarest Bros. Co.	1,500	
Silva, Busenees Co.	1,000	
Kunhardt & Co.	1,000	
United Fruit Co.	1,000	
Meyer Hecht	1,000	
I. Brandon & Bros.	1,000	41,000

*This sign in connection with imports of Centrals denotes Guayule rubber.

AFRICANS.

SEPTEMBER 24.—By the *Vaderland*=Antwerp:

A. T. Morse & Co.	27,000

SEPTEMBER 24.—By the *Minneapolis*=London:

Robinson & Stiles.	9,000

SEPTEMBER 25.—By the *President Grant*=Hamburg:

Poel & Arnold	68,000	
W. L. Gough Co.	5,500	
George A. Alden & Co.	1,500	75,000

SEPTEMBER 28.—By the *Peninsular*=Lisbon:

Poel & Arnold	22,500

OCTOBER 1.—By the *Kroonland*=Antwerp:

A. T. Morse & Co.	6,500	
W. L. Gough Co.	3,500	10,000

OCTOBER 2.—By the *Carmania*=Liverpool:

George A. Alden & Co.	13,500

OCTOBER 8.—By the *Zeeland*=Antwerp:

A. T. Morse & Co.	100,000	
General Rubber Co.	84,000	
Poel & Arnold	90,000	
George A. Alden & Co.	70,000	
Joseph Cantor	25,000	
Robinson & Stiles.	13,500	391,500

OCTOBER 8.—By the *Lucania*=Liverpool:

General Rubber Co.	37,000	
A. T. Morse & Co.	22,000	
George A. Alden & Co.	17,000	76,000

OCTOBER 8.—By the *La Gascogne*=Havre:

Henry A. Gould Co.	5,000	

OCTOBER 10.—By the *Teutonic*=London:

Poel & Arnold	13,500	
Livesey & Co.	6,500	20,000

OCTOBER 11.—By the *Patricia*=Hamburg:

Poel & Arnold	45,000	
W. L. Gough Co.	2,500	47,500

OCTOBER 12.—By the *Celtic*=Liverpool:

Poel & Arnold	11,500

OCTOBER 12.—By the *Philadelphia*=Bordeaux:

General Rubber Co.	67,000	
Rubber Trading Co.	2,500	69,500

OCTOBER 12.—By the *Amerika*=Hamburg:

George A. Alden & Co.	11,500

OCTOBER 14.—By the *Finland*=Antwerp:

A. T. Morse & Co.	7,000

OCTOBER 16.—By the *Caronia*=Liverpool:

General Rubber Co.	11,500	
Raw Products Co.	5,500	
Robinson & Stiles.	3,500	20,500

OCTOBER 16.—By the *President Lincoln*=Hamburg:

George A. Alden & Co.	27,000	
A. T. Morse & Co.	11,500	
Rubber Trading Co.	2,500	
W. L. Gough Co.	3,500	44,500

OCTOBER 17.—By the *Hudson*=Havre:

Poel & Arnold	145,000	
Livesey & Co.	1,500	146,500

OCTOBER 19.—By the *Arabic*=Liverpool:

Poel & Arnold	62,500

OCTOBER 21.—By the *La Bretagne*=Havre:

George A. Alden & Co.	18,000

EAST INDIAN.

SEPTEMBER 24.—By the *Minneapolis*=London:

Robinson & Stiles.	11,500	
Robinson & Stiles.	*3,500	
Poel & Arnold	5,000	
A. T. Morse & Co.	*2,500	22,500

OCTOBER 7.—By the *Korama*=Colombo:

A. T. Morse & Co.	*13,500

OCTOBER 14.—By the *Gibraltar*=Singapore:

Heabler & Co.	40,000	
Poel & Arnold	13,500	
Winter & Smillie	11,500	
General Rubber Co.	11,500	
Joseph Cantor	11,000	
W. L. Gough Co.	4,500	92,000

OCTOBER 14.—By the *Minnetonka*=London:

General Rubber Co.	*17,000	
Robinson & Stiles.	11,500	28,500

OCTOBER 14.—By the *Argenfels*=Colombo:

A. T. Morse & Co.	*13,500

OCTOBER 16.—By the *Oceanic*=London:

W. L. Gough Co.	27,000

OCTOBER 22.—By the *Minneapolis*=London:

General Rubber Co.	*7,000

OCTOBER 22.—By the *Verona*=Singapore:

Heabler & Co.	34,000	
W. L. Gough Co.	37,000	
Poel & Arnold	27,000	
George A. Alden & Co.	11,000	
A. T. Morse & Co.	11,000	120,000

*Denotes Plantation Rubber.

GUTTA-JELUTONG.

OCTOBER 14.—By the *Gibraltar*=Singapore:

Heabler & Co.	300,000	
George A. Alden & Co.	600,000	
N. Joachemsen	425,000	
Weber & Schear	200,000	
Robinson & Stiles.	225,000	
W. L. Gough & Co.	150,000	1,900,000

OCTOBER 21.—By the *Verona*=Singapore:

Heabler & Co.	500,000	
N. Joachemsen	400,000	
Weber & Schaer.	250,000	
George A. Alden & Co.	225,000	
Robinson & Stiles.	200,000	1,575,000

OCTOBER 22.—By the *Statendam*=Rotterdam:

George A. Alden & Co.	55,000

GUTTA-PERCHA.

	Pounds.	
OCTOBER 4.—By the *Pretoria*=Hamburg:		
Robert Soltau & Co.	7,000	
OCTOBER 14.—By the *Gibraltar*=Singapore:		
Heabler & Co.	56,000	
Robert Soltau & Co.	45,000	
George A. Alden & Co.	7,000	52,000
OCTOBER 16.—By the *President Lincoln*=Hamburg:		
Robert Soltau & Co.	7,000	
OCTOBER 21.—By the *Verona*=Singapore:		
Heabler & Co.	22,500	
George A. Alden & Co.	11,500	34,000

BALATA.

OCTOBER 3.—By the *Guiana*=Demerara:		
George A. Alden & Co.	11,500	
A. T. Morse & Co.	4,500	16,000
OCTOBER 5.—By the *Grenada*=Bolivar:		
Frame & Co.	7,000	
American Trading Co.	4,000	11,000
OCTOBER 5.—By the *Prins. Willem*=Demerara:		
George A. Alden & Co.	11,500	
A. T. Morse & Co.	5,500	
Middleton & Co.	4,500	21,500
OCTOBER 9.—By the *Korona*=Demerara:		
George A. Alden & Co.	17,000	
Middleton & Co.	6,000	23,000
OCTOBER 16.—By the *Uller*=Demerara:		
Middleton & Co.	7,000	
G. Amsinck & Co.	5,000	12,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—SEPTEMBER.

Imports:	Pounds.	Value.
India-rubber	3,078,024	$2,149,860
Balata	70,009	40,435
Gutta-percha	19,224	11,559
Gutta-jetulong	1,271,784	80,793
Total	4,439,041	$2,282,647
Exports:		
India-rubber	104,237	$88,438
Balata	14,414	5,398
Reclaimed rubber	180,424	24,787
Rubber Scrap Imported	898,021	$100,500

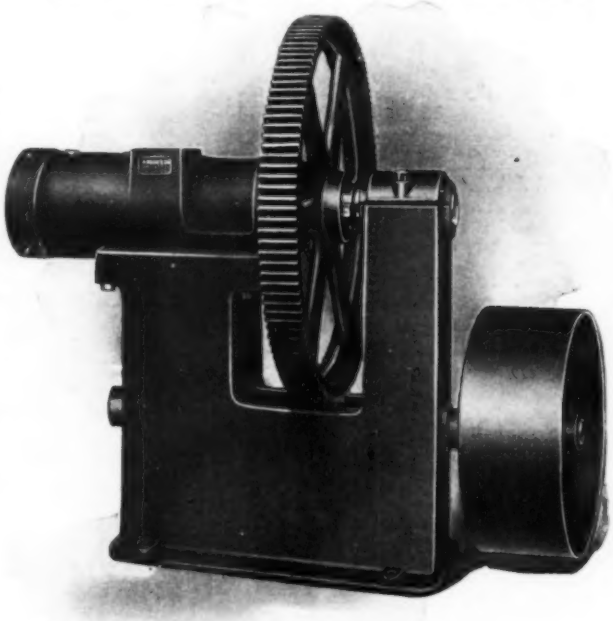
INDIA RUBBER WORLD
CAOUTCHOUC GUTTA-PERCHA

Vol. 37. NOVEMBER 1, 1907. No. 2.

TABLE OF CONTENTS

NEW STYLE TUBING MACHINE.

THE illustration herewith exhibits the most modern machine in its field, having many features that render it economical and otherwise satisfactory in working. It has an outboard bearing which gives the screw a proper balance, and the thrust bearing is made up of a series of cast iron rings of different texture, which run in oil, whereby is secured the proper lubrication so important a feature in tubing machine construction. The bed which carries the outboard bearing and cylinder is cast in one piece, being unusually heavy and strong. The capacity of this machine, in comparison with others of equal size, is referred to as having been demonstrated by several tests to be as 3 to 1. The drive pinion is of cast steel, cut, and the large gears of cast iron, also cut, which, together with the outboard bearing and the special ring thrust, makes the machine smooth and easy running. This machine is manufactured by Alexander Adamson, Akron, Ohio.



ADAMSON'S NEW TUBING MACHINE.

OFFICIAL STATISTICS OF RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1907	3,723,698	362,975	3,360,723
January-July	46,777,211	2,661,822	44,115,389
Eight months, 1907	50,500,909	3,024,797	47,476,112
Eight months, 1906	42,283,577	2,358,857	39,924,720
Eight months, 1905	44,679,510	2,052,652	42,626,858

GERMANY.

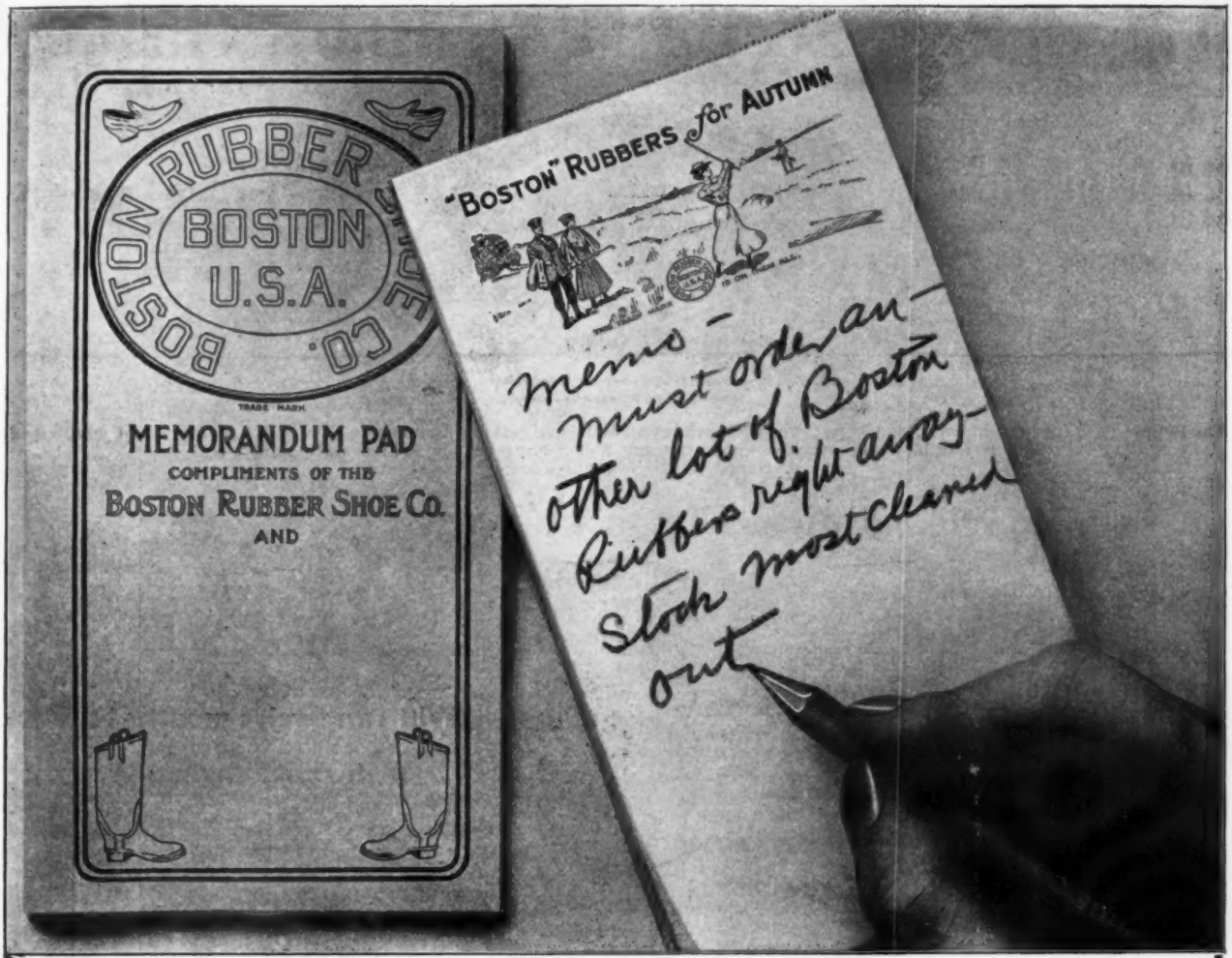
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1907	2,969,120	849,200	2,119,920
January-July	21,255,520	7,402,340	13,853,180
Eight months, 1907	24,224,640	8,251,540	15,973,100
Eight months, 1906	25,497,340	7,564,040	17,933,300
Eight months, 1905	29,686,140	10,169,720	19,516,420

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1907	2,152,040	1,368,180	783,860
January-July	20,054,100	12,364,660	7,689,440
Eight months, 1907	22,206,140	13,732,840	8,473,300
Eight months, 1906	21,413,260	11,885,940	9,527,320
Eight months, 1905	18,173,540	10,788,580	7,384,960

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1907	4,600,400	3,343,984	1,256,416
January-July	48,110,608	24,430,560	23,680,048
Eight months, 1907	52,711,008	27,774,544	24,936,464
Eight months, 1906	43,684,368	23,796,192	19,888,176
Eight months, 1905	42,288,960	23,112,440	19,176,520



Another Lot of Memo. Pads
So Many People Asked for Them
We've Got Out a New Edition
Your Jobber Will Supply You

A couple of years ago we issued a quantity of writing pads, 3¼x6—good pocket size, 50 leaves to a pad, with tinted cover and stiff board back. We've never heard the last of them. Every other mail has brought something like this: "Got any of those Memo. Pads left? Mighty convenient things. Please send us some more."

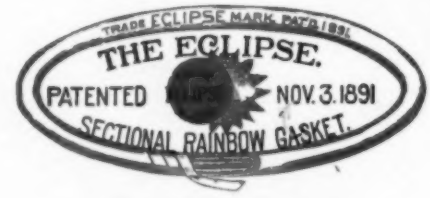
So we've had another lot made up—good quality of paper, with a picture at the top of each page, five different pictures in regular rotation, showing "Boston Rubbers for Spring," for Summer, for Fall, for Winter, for all the year.

Your jobber has some of these pads for you; write him at once—they're quick goers. The photograph above shows a retailer putting one of these pads to excellent use.

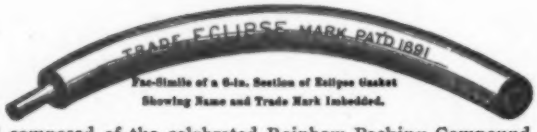
BOSTON RUBBER SHOE CO.

The Eclipse Sectional Rainbow Gasket

3/8 in.
1/2 in.
5/8 in. } For Hand Holes.



3/4 in.
7/8 in.
1 in. } For Extra Large Joints.



Fac-Simile of a 6-in. Section of Eclipse Gasket Showing Name and Trade Mark Imbedded.

The Eclipse Gasket is red in color, and composed of the celebrated Rainbow Packing Compound. It will not harden under any degree of heat, or blow out under the highest pressure, and can be taken out and repeatedly replaced. Joints can be made in from three to five minutes.

The Peerless Spiral Piston and Valve Rod Packing.

It will hold 400 pounds of steam.

Once Tried Always Used.

Will run twelve months in high speed engines.

Success Semi-Metallic, Diagonal Expansion Spiral Packing, Rainbow Core.

For Steam, Low or High Pressure.

For Hot or Cold Water and Ammonia Machines.

Patented October 31, 1899.

HOSE, BELTING, PACKING, VALVES and RUBBER TILING.

Largest manufacturers in the world of fine mechanical Rubber Goods.
Send for Catalogue.

MANUFACTURED PATENTED AND COPYRIGHTED EXCLUSIVELY BY

The Peerless Rubber Manufacturing Co.

16 WARREN STREET, NEW YORK.

LIST OF AGENCIES' ADDRESSES OF THE PEERLESS RUBBER MANUFACTURING CO.

Detroit, Mich.—24 Woodward Ave.; Chicago, Ill.—202-210 South Water St.; Indianapolis, Ind.—18 S. Capitol Ave.; Louisville, Ky.—111-121 W. Main St.; New Orleans, La.—Cor. Common and Tchoupitoulas Sts.; Omaha, Neb.—1218 Farnam St.; Richmond, Va.—1323 E. Main St.; Philadelphia, Pa.—220 S. Fifth St.; Dallas, Texas—177 Elm street.; Memphis, Tenn.—228 Front St.; St. Louis, Mo.—1213 Locust St.; Denver, Col.—1621-1639 17th St.; San Francisco, Cal.—17-23 Beale St. and 12-24 Main St.; Seattle, Wash.—Railroad Way and Occidental Ave.; Kansas City, Mo.—1221-1223 Union Ave.; Waco, Texas—709-711 Austin Ave.; Pittsburg, Pa.—634 Smithfield St.; Atlanta, Ga.—7-9 S. Broad St.; Columbus, Ohio—Cor. Long and Third Sts.; Cleveland, Ohio—61 Frankfort St.; Buffalo, N. Y.—379-383 Washington St.; Boston, Mass.—110 Federal St.; Syracuse, N. Y.—212-214 S. Clinton St.; Rochester, N. Y.—55 E. Main St.; Houston, Texas—113 Main St.; Baltimore, Md.—37 Hopkins Place.

SITUATIONS WANTED

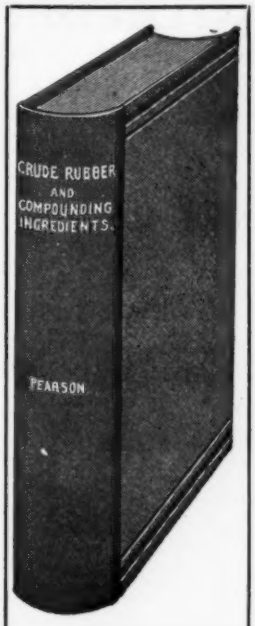
SUPERINTENDENT.—Superintendency or management of a reclaiming mill is desired by a man of fifteen years' experience who can show results. Has designed and installed three plants in the United States, and furnished plans, formulae, etc., for two abroad. Understands the acid, alkali and mechanical processes and can make up stocks for wire, mechanical or shoe trade; can reclaim tires, hose, etc., and obtain good results. Wide acquaintance with the trade. No objection to going abroad. A 1 references. Address H. S., care THE INDIA RUBBER WORLD. (379)

DRUGGISTS' SUNDRIES.—Man having fifteen years' experience wishes position as foreman of a druggists' sundries factory. Knows the business and can furnish highest references. Address O., care THE INDIA RUBBER WORLD. (382)

A Book for Rubber Planters

PRICE THREE DOLLARS

THE INDIA RUBBER PUBLISHING CO.
35 West 21st Street, New York



PRICE $10.
PREPAID.

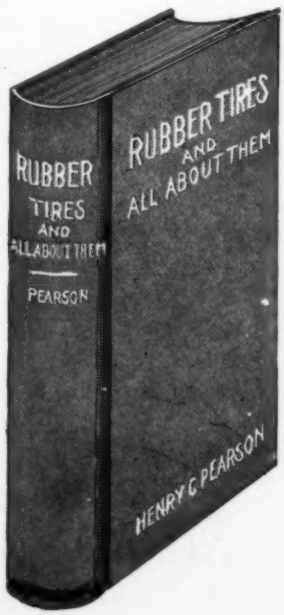
Crude Rubber and Compounding Ingredients

A Text Book of Rubber Manufacture

By HENRY C. PEARSON.

IT is often a great convenience to have at hand, in convenient form for reference, a book that will remind a man of something which he needs to make use of in his work or business, without waiting to ransack his memory for it no matter how well he may once have learned it. "Crude Rubber and Compounding Ingredients" has been designed to serve just such a purpose. In fact, the book was a gradual development of a manuscript reference book originally compiled by the author for his personal use alone. Finding how convenient it was to be able to turn to such a book, instead of having to depend on memory alone for the information it contained, the idea suggested itself that possibly others interested in the rubber industry might find these notes equally serviceable, and this is why they have been developed into a book.

THE INDIA RUBBER PUBLISHING CO.



A BOOK FOR EVERYBODY WHO HAS TO DO WITH RUBBER TIRES FOR BUSINESS OR PLEASURE

We heartily recommend this book to the trade.—*Fahrrad und Motorfahrzeug.*

Written in a manner which enables even those who are not connected with this line of industry to readily understand it.—*Allgemeine Automobil-Zeitung.*

This work is the most thorough treatise on tire making that has come under the observation of *The Motor Way.*—*The Motor Way.*

Gives a lucid and comprehensive review of the development and the present status of rubber tire manufacturing.—*Das Radmarkt.*

There may be those who think they know all about tires that is worth while, but they will conclude differently if they will peruse this well written volume.—*Carriage Monthly.*

Designed as a help for all who have to do with tires, treating of their quality, condition, application, repair and so on, with a general survey of the present state of tire manufacture.—*Gummi-Zeitung.*

Deserves the greatest attention from the rubber trade.—*Le Caoutchouc et la Gutta-Percha.*

PRICE $3.00 PER COPY, PREPAID
THE INDIA RUBBER PUBLISHING COMPANY
NUMBER 35 WEST TWENTY-FIRST STREET, NEW YORK

Small Advertisement Department.

SITUATIONS OPEN

WANTED.—An experienced Calender man who thoroughly understands the running of different grades of cloth. Steady job. Apply immediately at the PLYMOUTH RUBBER CO., Stoughton, Mass. (368)

WANTED.—By a large rubber manufacturer going into the manufacture of rubber covered wire on a large scale, a competent man, thoroughly informed, to act as Sales Manager of wire department and sell the output. We have a competent manufacturing man, whom we desire to support with the best selling man in the trade. The DIAMOND RUBBER CO., Akron, Ohio. (369)

WANTED.—High class salesman, thoroughly informed on hard rubber in all its branches. Factory capable of turning out the best of product. All inquiries confidential. The DIAMOND RUBBER CO., Akron, Ohio. (370)

WANTED.—Experienced Rubber Mixer, must be sober, reliable and furnish references as to ability. Experience in the Mechanical Rubber Line necessary. Address T. G., care of THE INDIA RUBBER WORLD. (371)

WANTED.—Experienced Tube Machine Man, must be sober, reliable and furnish references as to ability. Experience in the Mechanical Rubber Line necessary. Address C. C., care of THE INDIA RUBBER WORLD. (372)

WANTED.—A strictly first class belt room foreman. One who has had experience in good mills, and who is thoroughly qualified in the knowledge of how belts of all kinds should be made, and who can handle men to good advantage. For the right man, a permanent position and good salary. Address C. R., care of THE INDIA RUBBER WORLD. (373)

CHEMIST.—Man experienced in general rubber laboratory work. Address BOSTON, care of THE INDIA RUBBER WORLD. (374)

WANTED.—A prominent Eastern manufacturer requires an experienced salesman in Mechanical Rubber Goods Line for the Middle West. A man of ability and with established trade in the territory preferred. Address, giving experience, references and compensation required, MIDDLEWEST, care of THE INDIA RUBBER WORLD. (375)

WANTED.—By an old established company in California, experienced operator for Circular Loom, for weaving cotton hose. Must thoroughly understand the business and be able to break in new help and take charge of room. Address H. D., care of THE INDIA RUBBER WORLD. (356)

WANTED.—CHEMIST EXPERIENCED IN MAKING GOOD RUBBER SUBSTITUTES. Applicant should state where he was formerly employed and what salary he wants. He should also send samples of the substitutes he can make. Address SUBMAKER, care of THE INDIA RUBBER WORLD. (349)

TO MANUFACTURER

TO MANUFACTURERS OF BALATA BELTING.—Advertiser has a quantity of raw material to offer suitable for this at a very low price. Address JOHN LANG, 137 Fenchurch Street, London, E. C.

FOR SALE

A LARGE LOT OF RUBBER MILL MACHINERY FOR SALE.—Calenders, Grinders, Crackers, Washers, Devulcanizers, Tuning Machines, Fans, Presses, etc., and other rubber mill machinery. PHILIP MCGROGY, Trenton, N. J.

FOR SALE.—Factory Rubber Waste from Rubber Cement; cleaned at a low price; sample sent free. UNITED STATES WASTE RUBBER CO., No. 487 North Warren Avenue, Brockton, Mass.

AT LAST

The narrow neck seamless water bottle form is now perfected. Patent recently let. Owner would like to place the manufacture of dipped water bottles this form makes possible with a responsible mill on a royalty basis. Form is unique, it turns out a water bottle of absolutely one piece of rubber, including the funnel. This has never been made possible by any other form. Write for particulars. A fine opportunity opens up here. Address **Water Bottles, care of The India Rubber World.** (381)

SITUATIONS WANTED

ASSISTANT SUPERINTENDENT.—Chemist with twelve years' experience in the manufacturing of rubber goods desires a position as assistant superintendent in a reliable rubber concern, has had large experience in the handling of men. Has compounds and is familiar with the manufacturing of all kinds of goods. Can make rubber substitutes and is familiar with the treating of low grade gums so as to make them hard and durable. Address P. A., care of THE INDIA RUBBER WORLD. (367)

SUPERINTENDENT.—Position wanted as Superintendent in a Mechanical Rubber Goods factory by a thoroughly competent man with a life's experience. Can furnish compounds for all classes of mechanical work. First class references. Address A., care of THE INDIA RUBBER WORLD. (366)

SUPERINTENDENT OR ASSISTANT.—Position wanted as Superintendent or Assistant in Shoe, Mechanical or Druggists' Sundries, by a man of long experience now holding a similar position. Best of reasons for desiring a change. Address Supt., care of THE INDIA RUBBER WORLD. (365)

WANTED.—Situation as first class Automobile Tire Repairman. South West preferred. Address A. B. W., care of THE INDIA RUBBER WORLD. (364)

CLERK.—Young man who has had practical experience as contract, cable and correspondence clerk, having been eight years with one rubber company, would like similar position in the trade. Best of references as to ability and character. Address F. O. B., care of THE INDIA RUBBER WORLD. (376)

SITUATION WANTED.—Thoroughly competent Rubber Last Designer and manufacturer in all its branches desires position. Twelve years' experience; capable of managing any factory in this line; good mechanic; understands transmission of power. Would accept position in rubber factory. State salary. Best of references. Address R. S. T., care THE INDIA RUBBER WORLD. (377)

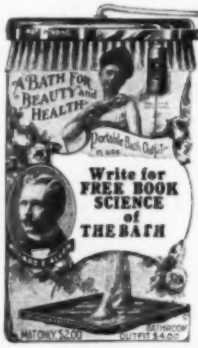
FOREMAN.—Hose room foreman with fifteen years' experience in large factories would like position. Special knowledge of air brake hose and all short lengths of railroad specification work, including air brake car heating U. & S. shape tender hose. Address H. D., care THE INDIA RUBBER WORLD. (378)

EXECUTIVE POSITION.—Man, 35 years old, with 15 years' experience in executive positions in mechanical and tire rubber works, in shop, office and sales, would like executive position in either factory or office. Would prefer management of small factory having reasonable chance to show results. Address H. T., care of THE INDIA RUBBER WORLD. (380)

Money Made in a good Fast Selling Specialty!

Our Extensive 1907 Magazine Advertising Campaign Bringing Thousands of Inquiries we prefer referring to the trade.

Will You Be Our Dealer In Your City?



The Allen Improved Fountain Brush Now Ready. Is Absolute Perfection. Result of years of experience.

The Allen is the Only Sanitary Bath Brush combining shower, friction and massage, and which at one operation thoroughly cleanses the skin, imparting healthy tone and glow, putting one in excellent physical condition.

Sold with two Outfits. Portable Outfit for use independent of Bathroom, and Bathroom Outfit for use in Bathtub.

Portable Outfit—Consists of one Allen Fountain Brush, one Rubber or Metallic Fountain, Safety Floor Mat, etc. This Outfit is neatly put up in small box; easily carried in grip; is thoroughly practical. Thousands in daily use.

Bathroom Outfit—Consists of one Allen Fountain Brush with High Pressure Hose and Bulb Faucet Connection. Can be connected with any faucet. Using the Fountain Brush under water pressure gives delightful results.

Write for Complete Catalogue and our Special Proposition to the Trade. We co-operate with you, and you will find our line a Money Maker. Doesn't Cost Anything to Find Out.

THE ALLEN MFG. CO.

2515 Adams St., Toledo, Ohio.

FOR ADDITIONAL SMALL WANT ADVERTISEMENTS SEE PAGE 37.

BUYERS' DIRECTORY OF THE RUBBER TRADE.

Classified List of Manufacturers and Dealers in India-Rubber Goods and Rubber Manufacturers' Supplies.

INDEX TO ADVERTISERS

MECHANICAL RUBBER GOODS.

Belting.
Diaphragms.
Gaskets.
Hose (Fire, Garden, Steam).
Mats and Matting.
Mould Work.
Packing.
Tubing.
Valves.
Washers.

Mechanical Rubber Goods—General.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Bowers Rubber Co., San Francisco, Cal.
Canadian Rubber Co. of Montreal.
H. O. Canfield Co., Bridgeport, Ct.
Chicago Rubber Wks., Chicago.
Cincinnati Rubber Mfg. Co., Cincinnati.
Cleveland Rubber Co., Cleveland, O.
Continental Caoutchouc & Guttapercha Co., Hanover, Germany.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
The Dermatine Co., London.
Dunlop Tire & Rubber Goods Co., Toronto.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Fire Hose Co., New York.

Mechanical Goods—General.—Continued.

B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Gutta Percha & Rubber Mfg. Co., Toronto.
Home Rubber Co., Trenton, N. J.
Lake Shore Rubber Co., Erie, Pa.
Manhattan Rubber Mfg. Co., New York.
Massachusetts Chemical Co., Walpole, Mass.
Mechanical Rubber Co., New York.
National India-Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
North British Rubber Co., Ltd., Edinburgh.
Peerless Rubber Mfg. Co., New York.
Pirelli & Co., Milan, Italy.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
Standard Rubber Co., Trenton, N. J.
Jos. Stokes Rubber Co., Trenton, N. J.
Stowe & Woodward Co., Campello, Mass.
Trenton Rubber Mfg. Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City.
Western Rubber Co., Goshen, Ind.

Air Brake Hose.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Electric Hose & Rubber Co., Wilmington, Del.
Acme Rubber Mfg. Co., Trenton.
B. F. Goodrich Co., Akron, O.

Air Brake Hose—Continued.

Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Belting (Canvas).

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Eureka Fire Hose Co., New York.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston-New York.

Billiard Cushions.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Manhattan Rubber Mfg. Co., New York.
New York Belting & Packing Co., Ltd.
New York Rubber Co., New York.
Revere Rubber Co., Boston-New York.

Blankets—Printers'.

Peerless Rubber Mfg. Co., New York.
Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.

Blankets—Printers'.—Continued.

Gutta Percha & Rubber Mfg. Co., N. Y.
Hodgman Rubber Co., New York.
Gustave Kush, New York.
Revere Rubber Co., Boston-New York.
Voorhees Mfg. Co., Jersey City.

Brushes.

Allen Mfg. Co., Toledo, Ohio.
Boston Woven Hose & Rubber Co.
C. J. Bailey & Co., Boston.

Buffers.

Boston Belting Co., Boston-New York.
Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
National India Rubber Co., Bristol, R. I.
Revere Rubber Co., Boston—New York.

Card Cloths.

Canadian Rubber Co. of Montreal.
Mechanical Fabric Co., Providence, R. I.

Carriage Mats.

Continental Rubber Works, Erie, Pa.
Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
National India Rubber Co., Bristol, R. I.

RUBBER BUYERS' DIRECTORY—Continued.

Carriage Mats.—Continued.

N. J. Car Spring & Rubber Co., Jersey City, N. J.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston—New York.
Voorhees Rubber Mfg. Co., Jersey City.

Cord (Pure Rubber).

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Davol Rubber Co., Providence, R. I.
Dayton Rubber Mfg. Co., Dayton, O.
Electric Hose & Rubber Co., Wilmington, Del.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Deckle Straps.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Mechanical Rubber Co., Chicago.
New York Belting & Packing Co., N. Y.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.

Door Springs.

Hodgman Rubber Co., New York.

Dredging Sleeves.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.

Force Cups.

The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Fruit Jar Rings.

Acme Rubber Mfg. Co., Trenton.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Empire Rubber Mfg. Co., Trenton, N. J.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
New York Belting & Packing Co., N. Y.

Fuller Balls.

Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.

Gage Glass Washers.

Boston Belting Co., Boston, Mass.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
Electric Hose & Rubber Co., Wilmington, Del.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago, Ill.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Revere Rubber Co., Boston, Mass.
Jos. Stokes Rubber Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City, N. J.

Gas-Bags (Rubber).

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
National India Rubber Co., Bristol, R. I.
Peerless Rubber Mfg. Co., New York.
Tyer Rubber Co., Andover, Mass.
Voorhees Rubber Mfg. Co., Jersey City.

Gasket Tubing.

Boston Belting Co., Boston-New York.
Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
New Jersey Car Spring & Rubber Co.
Rever Rubber Co., Boston—New York.

Grain Drill Tubes.

Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Dayton Rubber Mfg. Co., Dayton, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.

Hat Bags.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co.
Mechanical Rubber Co., Chicago.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Rever Rubber Co., Boston—New York.

Horse Shoe Pads.

Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Hose—Wire Wound.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
Electric Hose & Rubber Co., Wilmington, Del.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Hose Core.

Alderfer Crate Co., Sharon Center, O.

Hose Pipes, Nozzles, Couplings and Fittings.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Eureka Fire Hose Co., New York.
Revere Rubber Co., Boston.
A. Schrader's Son, Inc., New York.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Hose Linings.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston—New York.

Hose Racks and Reels.

Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
New York Belting & Packing Co., N. Y.
Wirt & Knox Mfg. Co., Philadelphia.

Hose—Rubber Lined.

Cotton and Linen.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Gutta Percha & Rubber Mfg. Co., N. Y.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Fire Hose Co., New York.
Fabric Fire Hose Co., New York.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Gutta Percha & Rubber Mfg. Co. of Toronto.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
Jos. Stokes Rubber Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City.

Hose—Submarine.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Continental Rubber Works, Erie, Pa.
Electric Hose & Rubber Co., Wilmington, Del.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
A. Schrader's Son, Inc., New York.

Hose Bands, Straps & Menders.

Boston Woven Hose & Rubber Co.
William Yerdon, Fort Plain, N. Y.

Lawn-Hose Supporters.

C. J. Bailey & Co., Boston.

Lawn Sprinklers.

W. D. Allen Mfg. Co., Chicago.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.

Mallets (Rubber).

Boston Belting Co., Boston-New York.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston-New York.

Mould Work.

(See Mechanical Rubber Goods.)

H. O. Canfield Co., Bridgeport, Ct.
Continental Rubber Works, Erie, Pa.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Dayton Rubber Mfg. Co., Dayton, O.
Faultless Rubber Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.
Manhattan Rubber Mfg. Co., New York.
Massachusetts Chemical Co., Walpole, Mass.
Mattson Rubber Co., New York.
Milford Rubber Works, Milford, Ill.
Mitsel Rubber Co., Akron, O.
Plymouth Rubber Co., Stoughton, Mass.
Stowe & Woodward Co., Campello, Mass.
Tyer Rubber Co., Andover, Mass.
Western Rubber Works, Goshen, Ind.

Oil Well Supplies.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Lake Shore Rubber Co., Erie, Pa.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-Pittsburgh.
Voorhees Rubber Mfg. Co., Jersey City.

Packing.

(See Mechanical Rubber Goods.)

Dayton Rubber Mfg. Co., Dayton, O.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
New Jersey Car Spring & Rubber Co.
Voorhees Rubber Mfg. Co., Jersey City.

Paper Machine Rollers.

Boston Belting Co., Boston-New York.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Manhattan Rubber Mfg. Co., New York.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Plumbers' Supplies.

Canadian Rubber Co. of Montreal.
H. O. Canfield Co., Bridgeport, Ct.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Western Rubber Works, Goshen, Ind.

Pump Valves.

(See Mechanical Rubber Goods.)

Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
New York Belting & Packing Co., N. Y.
Revere Rubber Co., Boston—New York.
Western Rubber Works, Goshen, Ind.

Rolls—Rubber Covered.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
Stowe & Woodward Co., Campello, Mass.

Sewing Machine Rubbers.

Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.

Springs—Rubber.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Stair Treads.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.

RUBBER BUYERS' DIRECTORY—Continued.

Stair Treads—Continued.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Thread.
B. F. Goodrich Co., Akron, O.
Mechanical Fabric Co., Providence, R. I
Revere Rubber Co., Boston—New York.

Tiling.
Canadian Rubber Co., of Montreal, Ltd.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring and Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Voorhees Rubber Mfg. Co., Jersey City.

Tubing.
(See Mechanical Rubber Goods.)
American Hard Rubber Co., New York.
Continental Rubber Works, Erie, Pa.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Dayton Rubber Mfg. Co., Dayton, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
New Jersey Car Spring & Rubber Co.
New York Belting & Packing Co., N. Y.
Tyer Rubber Co., Andover, Mass.

Valve Balls.
Boston Belting Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.

Valve Discs.
American Hard Rubber Co., New York.
Boston Belting Co., Boston-New York.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Western Rubber Works, Goshen, Ind.

Valves.
(See Mechanical Rubber Goods.)
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Jenkins Bros., New York-Chicago.
Milford Rubber Works Co., Milford, Ill.
New Jersey Car Spring & Rubber Co.
New York Belting & Packing Co., N. Y.

Vulcanite Emery Wheels.
Manhattan Rubber Mfg. Co., Passaic, N. J.
New York Belting & Packing Co., Ltd., New York.

Wringer Rolls.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
New York Belting & Packing Co., N. Y.
Republic Rubber Co., Youngstown, O.

DRUGGISTS' AND STATIONERS' SUNDRIES.

Atomizers.
Bandages.
Bulbs.
Syringes.
Water Bottles.
Druggists' Sundries—General.
Allen Mfg. Co., Toledo, Ohio.
American Hard Rubber Co., New York.
C. J. Bailey & Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Canton Rubber Co., Canton, O.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Hygeia Nursing Bottle Co., Buffalo, N. Y.
Imperial Rubber Mfg. Co., Beach City, O.
Luzerne Rubber Co., Trenton, N. J.
Mitsel Rubber Co., Akron, O.
National India Rubber Co., Bristol, R. I.
North British Rubber Co., Ltd., Edinburgh.
Pirelli & Co., Milan, Italy.
Seamless Rubber Co., New Haven, Ct.
Tyer Rubber Co., Andover, Mass.

Balls, Dolls and Toys.
New York Rubber Co., New York.

Combs.
American Hard Rubber Co., New York.

Elastic Bands.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York-Boston.
Tyer Rubber Co., Andover, Mass.

Erasive Rubbers.
Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.
Mattson Rubber Co., New York.

Finger Cots.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Faultless Rubber Mfg. Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Imperial Rubber Mfg. Co., Beach City, O.
The Rubber Products Co., Barberton, O.

Gloves.
Canadian Rubber Co. of Montreal.
Davol Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Imperial Rubber Mfg. Co., Beach City, O.
National India Rubber Co., Bristol, R. I.
Rubber Products Co., Barberton, O.

Hard Rubber Goods.
American Hard Rubber Co., New York.
Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
H. O. Canfield Co., Bridgeport, Ct.
Davol Rubber Co., Providence, R. I.
Household Rubber Co., Youngstown, O.
Luzerne Rubber Co., Trenton, N. J.
Stokes Rubber Co., Joseph, Trenton, N. J.
Tyer Rubber Co., Andover, Mass.

Hospital Sheetings.
Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.
Plymouth Rubber Co., Stoughton, Mass.
Tyer Rubber Co., Andover, Mass.

Ice Bags and Ice Caps.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Imperial Rubber Mfg. Co., Beach City, O.
National India Rubber Co., Bristol, R. I.
The Rubber Products Co., Barberton, O.
Tyer Rubber Co., Andover, Mass.

Life Preservers.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Nipples.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hygeia Nursing Bottle Co., Buffalo, N. Y.
Imperial Rubber Mfg. Co., Beach City, O.
The Rubber Products Co., Barberton, O.
Tyer Rubber Co., Andover, Mass.

Portable Bath Outfits.
Allen Mfg. Co., Toledo, Ohio.

Shower Bath Sprinklers.
A. Schrader's Son, Inc., New York.

Sponges (Rubber).
Geo. Borgfeldt & Co., New York.
Faultless Rubber Co., Ashland, O.
N. Tire Rubber Sponge Co., Chicago.

Stationers' Sundries.
American Hard Rubber Co., New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York-Boston.
Seamless Rubber Co., New Haven, Ct.
Tyer Rubber Co., Andover, Mass.

Stopples (Rubber).
Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
Hodgman Rubber Co., New York.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
A. Schrader's Sons, Inc., New York.
Tyer Rubber Co., Andover, Mass.

Throat Bags.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich, Akron, O.
National India Rubber Co., Bristol, R. I.
Tyer Rubber Co., Andover, Mass.

Tobacco Pouches.
Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
The Rubber Products Co., Barberton, O.
Tyer Rubber Co., Andover, Mass.

MACKINTOSHED AND SURFACE GOODS.

Air Cushions.
Metropolitan Air Goods Co., Reading, Mass.

Air Goods (Rubber).
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Metropolitan Air Goods Co., Reading, Mass.
New York Rubber Co., New York.
National India Rubber Co., Providence.
Tyer Rubber Co., Andover, Mass.

Air Mattresses.
Canadian Rubber Co. of Montreal.
Metropolitan Air Goods Co., Reading, Mass.
Mechanical Fabric Co., Providence, R. I.
National India Rubber Co., Bristol, R. I.

Barbers' Bibs.
Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
Tyer Rubber Co., Andover, Mass.

Bathing Caps.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.

Bellows Cloths.
Boston Rubber Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.

Calendering.
La Crosse (Wis.) Rubber Mills Co.
Plymouth Rubber Co., Stoughton, Mass.

Carriage Ducks and Drills.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Gutta Percha & Rubber Mfg. Co., Toronto.
National India Rubber Co., Bristol, R. I.

Clothing.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Gutta Percha & Rubber Mfg. Co. of Toronto.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.
National India Rubber Co., Bristol, R. I.
North British Rubber Co., Ltd., Edinburgh.
Pirelli & Co., Milan, Italy.

Cravenette.
Cravenette Co., Ltd.

Diving Apparatus.
A. Schrader's Son, Inc., New York.
Hodgman Rubber Co., New York.

Dress Shields.
Mattson Rubber Co., New York.

Horse Covers.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Leggings.
Cleveland Rubber Co., Cleveland, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Mackintoshes.
(See Clothing.)

Proofing.
Canadian Rubber Co. of Montreal.
La Crosse (Wis.) Rubber Mills Co.
Plymouth Rubber Co., Stoughton, Mass.
Stowe and Woodward, Campello, Mass.

Rain Coats.
Cravenette Co., Ltd.

Rubber Coated Cloths.
Mechanical Fabric Co., Providence, R. I.

RUBBER FOOTWEAR.

Boots and Shoes.
American Rubber Co., Boston.
Boston Rubber Shoe Co., Boston.
Canadian Rubber Co. of Montreal.
L. Candee & Co., New Haven, Ct.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co. of Toronto.
Hood Rubber Co., Boston.
Lycoming Rubber Co., Williamsport, Pa.
Meyer Rubber Co., New York.
Milford Rubber Works Co., Milford, Ill.
National India Rubber Co., Boston.
North British Rubber Co., Ltd., Edinburgh.
United States Rubber Co., New York.
Wales-Goodyear Rubber Co., Boston.
Woonsocket Rubber Co., Providence.

Heels and Soles.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Continental Caoutchouc & Guttapercha Co., Hanover.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Plymouth Rubber Co., Stoughton, Mass.
Western Rubber Works, Goshen, Ind.

Tennis Shoes.
American Rubber Co., Boston.
Boston Rubber Shoe Co., Boston.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
La Crosse Rubber Mills Co., La Crosse, Wis.
National India Rubber Co., Providence.
United States Rubber Co., New York.

Wading Pants.
Canadian Rubber Co. of Montreal.
Hodgman Rubber Co., New York.

DENTAL AND STAMP RUBBER.

Dental Gum.
American Hard Rubber Co., New York.
Cleveland Rubber Co., Cleveland, O.
Tyer Rubber Co., Andover, Mass.

Rubber Dam.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Tyer Rubber Co., Andover, Mass.

Stamp Gum.
B. F. Goodrich Co., Akron, O.
Mattson Rubber Co., New York.
Mechanical Rubber Co., Chicago, Ill.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.

ELECTRICAL.

Electrical Supplies.
American Hard Rubber Co., New York.
Lake Shore Rubber Co., Erie, Pa.
Joseph Stokes Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Boston.
Tyer Rubber Co., Andover, Mass.

Friction Tape.
Boston Belting Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Boston.
Mechanical Rubber Co., Chicago.
National India Rubber Co., Bristol, R. I.
Revere Rubber Co., Boston-New York.

RUBBER BUYERS' DIRECTORY—Continued.

Hard Rubber Goods.
American Hard Rubber Co., New York.
Canadian Rubber Co. of Montreal.
Luserne Rubber Co., Trenton, N. J.
Joseph Stokes Rubber Co., Trenton, N. J.

Insulating Compounds.
Canadian Rubber Co. of Montreal.
Gutta-Percha & Rubber Mfg. Co., Toronto.
Massachusetts Chemical Co., Boston.

Insulated Wire and Cables.
National India Rubber Co., Providence.

Splicing Compounds.
Home Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Walpole, Mass.

SPORTING GOODS.

Foot Balls.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Golf Balls.
Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Sporting Goods.
Canadian Rubber Co. of Montreal.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Tyer Rubber Co., Andover, Mass.

Striking Bags.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Rubber Products Co., Barberton, O.

Submarine Outfits.
Hodgman Rubber Co., New York.
A. Schrader's Sons, Inc., New York.

MISCELLANEOUS.

Boxes (Wood).
Henry H. Sheip & Co., Philadelphia.

Brass Fittings.
A. Schrader's Son, Inc., New York.

Buckles.
The Weld Mfg. Co., Boston.

Cement (Rubber).
Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Hadley Cement Co., Lynn, Mass.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.

Chemical and Mechanical Engineer.
Charles E. Farrington, Boston.

Chemists.
Stephen P. Sharples, Boston, Mass.

Consulting Engineer.
M. P. Fillingham, New York.

Recording Thermometers.
Bristol Co., New York.

Rubber Journals.
Gummi-Zeitung, Dresden, Germany.
L'Agriculture des Pays Chauds, France.

Rubber Tree Seeds.
J. P. William & Bros., Heneratgoda, Ceylon.
Paul Krumbholz, Momotombo, Nicaragua.

Scrap Metals.
Robert L. Crooke, New York.

Tapping Tools.
G. Van den Kerckhove, Brussels, Belgium.

Valves for Air Goods.
A. Schrader's Son, Inc., New York.

MACHINERY AND SUPPLIES FOR RUBBER MILLS.

RUBBER MACHINERY.

Acid Tanks.
Birmingham Iron Foundry, Derby, Conn.

Band Cutting Machines.
A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.

Belt Folding Machines.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Belt Slitters.
Cloth Dryers.
Gearing.
Shafting.

Wrapping Machines.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Belt Stretchers.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
Hoggson & Pettis Mfg. Co., New Haven.

Boilers.
William R. Thropp, Trenton, N. J.
John E. Thropp & Sons Co., Trenton, N. J.

Braiders.
New England Butt Co., Providence, R. I.
Textile Machine Works, Reading, Pa.

Cabling Machinery.
Alton Machine Co., New York.

Calenders.
Birmingham Iron Foundry, Derby, Conn.
David Bridge & Co., Castleton, Manchester, Eng.
Farrel Foundry & Mach. Co., Ansonia, Conn.
Textile-Finishing Machinery Co., Providence, R. I.
Textile Machine Works, Reading, Pa.

Castings.
A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Chucks (Lathe).
Hoggson & Pettis Mfg. Co., New Haven.

Churns.
American Tool & Machine Co., Boston.

Clutches.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Crackers.
Birmingham Iron Foundry, Derby, Conn.

Devulcanizers.
Biggs Boiler Works Co., Akron, O.
Birmingham Iron Foundry, Derby, Conn.
Edred W. Clark, Hartford, Conn.
William R. Thropp, Trenton, N. J.

Dies.
John J. Adams, Worcester, Mass.
Boston Die Co., Boston.
Hoggson & Pettis Mfg. Co., New Haven.

Doubling Machines.
American Tool & Machine Co., Boston.

Drying Apparatus.
American Process Co., New York.

Drying Machines.
David Bridge & Co., Castleton, Manchester, Eng.
Joseph P. Devine, Buffalo, N. Y.
Birmingham Iron Foundry, Derby, Conn.
Textile-Finishing Machinery Co., Providence, R. I.

Embossing Calenders.
Textile-Finishing Machinery Co., Providence, R. I.

Engines, Steam.
William R. Thropp, Trenton, N. J.
John E. Thropp & Sons Co., Trenton, N. J.

Engraving Rolls.
Hoggson & Pettis Mfg. Co., New Haven.

Grinders and Mixers.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
William R. Thropp, Trenton, N. J.

Hangers.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Hose Machines.
A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.
New England Butt Co., Providence, R. I.

Hydraulic Accumulators.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Insulating Machinery.
John Royle & Sons, Paterson, N. J.
Textile Machine Works, Reading, Pa.

Lasts (Rubber Shoe).
Middlesex Last Co., Boston.

Lathes—Hard Rubber.
A. Adamson, Akron, O.

Lathes—Jar Ring.
A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.
William R. Thropp, Trenton, N. J.

Machinists' Tools.
Hoggson & Pettis Mfg. Co., New Haven.

Moulds.
A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.
Hoggson & Pettis Mfg. Co., New Haven.
Williams Foundry & Machine Co., Akron, Ohio.

Pillow Blocks.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Presses (for Rubber Work).
A. Adamson, Akron, O.
Bay State Machine Co., Erie, Pa.
Birmingham Iron Foundry, Derby, Conn.
Boomer & Boschert Press Co., Syracuse, N. Y.
Edred W. Clark, Hartford, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
William R. Perrin & Co., Chicago Ill.
William R. Thropp, Trenton, N. J.
Williams Foundry & Machine Co., Akron, Ohio.

Pumps.
Birmingham Iron Foundry, Derby, Conn.
Boomer & Boschert Press Co., Syracuse.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Racks for Boot and Shoe Cars.
Hoggson & Pettis Mfg. Co., New Haven.

Reducing Valves.
Mason Regulator Co., Boston.

Rollers (Hand).
Hoggson & Pettis Mfg. Co., New Haven.

Rubber Covering Machines.
New England Butt Co., Providence, R. I.

Separators.
Turner, Vaughan & Taylor Co., Cuyahoga Falls, O.

Separators for Reclaimed Rubber.
American Process Co., New York.

Special Rubber Machinery.
Wellman Co., Medford, Mass.

Spreaders.
American Tool & Machine Co., Boston.
Birmingham Iron Foundry, Derby, Conn.
New England Butt Co., Providence, R. I.

Steam Traps and Specialties.
Jenkins Bros., New York.
Mason Regulator Co., Boston.
Osgood Sayen, Philadelphia, Pa.

Steel Stamps.
Hoggson & Pettis Mfg. Co., New Haven.

Stitchers (Hand).
Hoggson & Pettis Mfg. Co., New Haven.

Strip Covering Machines.

Strip Cutters.
New England Butt Co., Providence, R. I.

Tire Molds.
Bay State Machine Co., Erie, Pa.
Williams Foundry & Machine Co., Akron, O.

Tubing Machines.
A. Adamson, Akron, O.
Bay State Machine Co., Erie, Pa.
Edred W. Clark, Hartford, Conn.
John Royle & Sons, Paterson, N. J.
Textile Machine Works, Reading, Pa.
Williams Foundry & Machine Co., Akron, Ohio.

Vacuum Drying Chambers.
Buffalo Foundry & Machine Co., Buffalo, N. Y.
Joseph P. Devine Co., Buffalo, N. Y.
F. J. Stokes Machine Co., Philadelphia, Pa.

Varnishing Machines.
Birmingham Iron Foundry, Derby, Conn.

Vulcanizers.
Biggs Boiler Works Co., Akron, O.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia.
John E. Thropp's Sons Co., Trenton, N. J.
William R. Thropp, Trenton, N. J.

Washers.
Birmingham Iron Foundry, Derby, Conn.
David Bridge & Co., Castleton, Manchester, Eng.
Continental Rubber Works, Erie, Pa.
Farrel Foundry & Mach. Co., Ansonia, Conn.
William R. Thropp, Trenton, N. J.
Turner, Vaughn & Taylor Co., Cuyahoga Falls, O.

Wire Insulating Machines.
New England Butt Co., Providence, R. I.
John Royle & Sons, Paterson, N. J.

SECOND-HAND MACHINERY.

Philip McGrory, Trenton, N. J.
M. Norton & Co., Charlestown, Mass.

FACTORY SUPPLIES.

Aluminum Flake.
Aluminum Flake Co., Akron, O.

Antimony, Sulphurets of.
Golden.
Actien-Ges. Georg Egestorff's Salzwerke Linden, Germany.
Atlas Chemical Co., Newtonville, Mass.
Golden and Crimson.
Joseph Cantor, New York.

MACHINERY AND SUPPLIES FOR RUBBER MILLS—Continued.

Antimony, Sulphurets of.—Continued.

Golden and Crimson.
Wm. H. Scheel, New York.
Stamford (Conn.) Rubber Supply Co.
Typke & King, London, England.

Balata.
George A. Alden & Co., Boston.
Raw Products Co., New York.

Benzol.
Samuel Cabot, Boston.

Black Hypo.
Joseph Cantor, New York.
William H. Scheel, New York.
Typke & King, London, England.

Carbon Bisulphide.
George W. Speaight, New York.

Chemicals.
Massachusetts Talc Co., Boston.
Oxford Tripoli Co., New York.
George W. Speaight, New York.
S. P. Wetherill Co., Philadelphia, Pa.

Colors.
Joseph Cantor, New York.
William H. Scheel, New York.
Typke & King, London, England.
S. P. Wetherill Co., Philadelphia, Pa.

Crude Rubber.
George A. Alden & Co., Boston.
A. W. Bruan & Co., New York.
Walter L. Gough & Co., New York.
Hagermeyer & Brunn, New York.
Adolph Hirsch & Co., New York.
Livesey & Co., Ltd., New York.
Raw Products Co., New York.
Rubber Trading Co., New York-Boston.

Dermatine.
The Dermatine Co., London.

Ducks and Drills (Cotton).
J. H. Lane & Co., New York.

Gilsonite.
William H. Scheel, New York.

Graphite Grease.
Jos. Dixon Crucible Co., Jersey City.

Guayule Rubber.
Continental Rubber Co.
Ed. Maurer, New York.

Gutta-Percha.
George A. Alden & Co., Boston.
Raw Products Co., New York.
Rubber Trading Co., New York-Boston.

Hydro-Carbon Products.
Geo. A. Alden & Co., Boston.
William H. Scheel, New York.
Raven Mining Co., Chicago.

Infusorial Earth.
Stamford (Conn.) Rubber Supply Co.

Kapak.
Raven Mining Co., Chicago.

Lampblack.
Samuel Cabot, Boston.

Lead—Blue.

Lead—Sublimed White.
Picher Lead Co., Chicago, Ill.

Lithopone.
Gabriel & Schall, New York.

Mineral Rubber.
Geo. A. Alden & Co., Boston.

Paris White and Whiting.
H. F. Taintor Mfg. Co., New York.

Reclaimed Rubber.
Aladdin Rubber Co., Akron, O.
Alkali Rubber Co., Akron, O.
F. H. Appleton & Son, Boston.
Bloomingdale (N. J.) Soft Rubber Co.
E. H. Clapp Rubber Co., Boston, Mass.
Danversport Rubber Co., Boston.
Derby Rubber Co., Derby, Conn.
Eastern Rubber Co., New York.
John Lang, London.
Manufactured Rubber Co.
New Jersey Rubber Co., Lambertville, N. J.
Pequanoc Rubber Co., Butler, N. J.
Philadelphia Rubber Works, Philadelphia.
Rickaby Rubber Mfg. Co., South Framingham, Mass.
Robinson & Stiles, New York.
Stockton Rubber Co., Stockton, N. J.
Jos. Stokes Rubber Co., Trenton, N. J.
S. & L. Rubber Co., Chester, Pa.
Trenton (N. J.) Rubber Reclaiming Works.
U. S. Rubber Reclaiming Works, N. Y.
Westmoreland Rubber Mfg. Co., Grapeville, Pa.

Agents and Dealers.

Philip McGrory, Trenton, N. J.
H. P. Moorhouse, Paris, France.
Rubber Trading Co., New York-Boston.
Wm. Somerville's Sons, Liverpool.

Scrap Rubber.
L. Albert & Son, Trenton, N. J.
Bers & Co., Philadelphia.
M. Berzen & Co., New York.
Wm. H. Cummings & Sons, New York.
Green, Hans L., & Co., New York.
Theodore Hofeller & Co., Buffalo, N. Y.
M. Kaufman, Chicago.
A. W. Leslie & Co., Ltd., London, Eng.
B. Loewenthal & Co., New York and Chicago.
J. Loewenthal & Sons, Chicago.
Philip McGrory, Trenton, N. J.
Meyer Bros., Philadelphia, Pa.
Albert A. Moers, New York.
M. Norton & Co., Charlestown, Mass.
E. Parser & Brodsky, Antwerp.
J. Schnurmann, London.
Schwab & Co., Philadelphia.
Trenton Gutta Percha & Rubber Separating Co., Trenton, N. J.
Trenton Scrap Rubber Supply Co., Trenton, N. J.
United States Waste Rubber Co., Brockton, Mass.
M. J. Wolpert, Odessa, Russia.

Substitute.
T. C. Ashley, Boston.
Joseph Cantor, New York.
Carter, Bell Mfg. Co., New York.
Corn Products Refining Co., New York.
C. P. Dos Santos, New York.
Massachusetts Chemical Co., Boston.
The Rubber Chemical Co., Birmingham, England.
Wm. H. Scheel, New York.
Stamford (Conn.) Rubber Supply Co.
Typke & King, London, England.
Robert E. Tyson, Fairfield, Conn.

Sulphur.
Battelle & Renwick, New York.
T. & S. C. White Co., New York.

Sulphur Chloride.
William H. Scheel, New York.
George W. Speaight, New York.
Stamford (Conn.) Rubber Supply Co.

Whiting.
H. F. Taintor Mfg. Co., New York.

Zinc, Oxide of.
New Jersey Zinc Co., New York.

Zinc Substitute.
Aluminum Flake Co., Akron, O.

Zinc Sulphide.
Joseph Cantor, New York.
Typke & King, London, England.

BUYERS' DIRECTORY FOR RUBBER TIRES AND ACCESSORIES.

Auto Top Fabrics.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Fabrics.
Lane & Co., J. H., New York.
National India Rubber Co., Bristol, R. I.

Insulated Wires.
National India Rubber Co., Bristol, R. I.

Mats, Automobile.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co., Cambridge, Mass.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
Revere Rubber Co., Boston, Mass.

Repair Stock.
Trenton Rubber Mfg. Co., Trenton, N. J.

Rims, Wheel.
Goodrich Co., B. F., Akron, Ohio.

Tires.
Bailey & Co., C. J., Boston, Mass.
Canadian Rubber Co., of Montreal, Ltd.
Continental Caoutchouc Co., New York.
Continental Rubber Works, Erie, Pa.
Dunlop Tire & Rubber Goods Co., Toronto.
Empire Rubber Mfg. Co., Trenton, N. J.
Goodrich Co., B. F., Akron, Ohio.
Gutta Percha & Rubber Mfg. Co., Toronto.
Kokomo Rubber Co., Kokomo, Ind.
Lake Shore Rubber Co., Erie, Pa.
Milford Rubber Works, Milford, Ill.
North British Rubber Co., Ltd., Edinburgh, Scotland.
Pirelli & Co., Milan, Italy.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, Ohio.
Trenton Rubber Mfg. Co., Trenton, N. J.

Automobile and Carriage.
Acme Rubber Mfg. Co., Trenton, N. J.
Boston Belting Co., Boston-New York.
Revere Rubber Co., Boston-New York.

Tire Fabrics.
Lane & Co., J. H., New York.

Tire Repairing.
Voorhees Rubber Mfg. Co., Jersey City, N. J.

Treads.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co., Cambridge, Mass.
Manhattan Rubber Mfg. Co., New York.
Revere Rubber Co., Boston, Mass.

Valves, Tire.
Dubied & Co., Ed., 43-45 West 34th St., New York.
Schrader's Sons, Inc., A., New York.